

FINAL

ENVIRONMENTAL ASSESSMENT

DEVELOPMENT OF PROPOSED TREATY
U.S./RUSSIA BILATERAL AGREEMENT FOR THE CONSERVATION OF POLAR BEARS IN THE
CHUKCHI/BERING SEAS

DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service

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LIST OF ACRONYMS

1973 Agreement	Agreement on the Conservation of Polar Bears
AMAP	Arctic Monitoring and Assessment Program
AEPS	Arctic Environmental Protection Strategy
AEWC	Alaska Eskimo Whaling Commission
CAFF	Conservation of Arctic Flora and Fauna
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
Whaling Convention	International Convention for the Regulation of Whaling, of 1946
EA	Environmental Assessment
IUCN	International Union for Conservation of Nature and Natural Resources
LOA	Letter of Authorization
MOU	Memorandum of Understanding
MMPA	Marine Mammal Protection Act of 1972
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
North Slope Borough/Inuvialuit Game Council (NSB/IGC) Agreement	Management Agreement for Polar Bears in the Southern Beaufort Sea: Agreement between the Inuvialuit Game Council of Inuvik, Northwest Territories, Canada, and the North Slope Borough Fish and Game Management Committee of Barrow, Alaska, USA
OSP	optimum sustainable population levels
Parties to the 1973 Agreement	Denmark, Canada, former Soviet Union, Norway, and the United States
Parties to the Native-to Native Agreement	Alaska Nanuuq Commission and Chukotka Native Marine Mammal Commission
PBR	Potential Biological Removal
Russia	Russian Federation (formerly U.S.S.R.)
Service	U.S. Fish and Wildlife Service
Strategy	Habitat Conservation Strategy for Polar Bears in Alaska
Umq'a	Russian local Native polar bear user organization
U.S.	United States of America
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
U.S.S.R.	Union of Soviet Socialist Republics (former Soviet Union)

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I. INTRODUCTION

A. BACKGROUND AND PROBLEM IDENTIFICATION

In 1973 the United States, Norway, Denmark, Canada, and the former Soviet Union (Parties) signed the international *Agreement on the Conservation of Polar Bears* (1973 Agreement) to protect polar bears (*Ursus maritimus*) and their habitat (Appendix A). The United States (U.S.) ratified this agreement in 1976. It became the responsibility of each Party to develop its own conservation program to promote compliance with the 1973 Agreement. The Marine Mammal Protection Act of 1972 (MMPA), as amended, vested authority in the U.S. Fish and Wildlife Service (Service) for the management and conservation of polar bears.

In Alaska, there are two distinct populations of polar bears (Figure 1), one in the southern Beaufort Sea and the other in the Chukchi/Bering and a portion of the Eastern Siberian seas (Lentfer 1974, Amstrup 1995, USFWS 1995a-Appendix F). The latter is shared between the U.S. and Russia and is referred to hereafter as the Alaska-Chukotka population. The southern Beaufort Sea population is shared between United States and Canada. Overlap of the two populations occurs primarily from Point Barrow to Point Hope, Alaska. Prior to the advent of satellite telemetry in the early 1980s, the extent of movement by polar bears between the U.S. and Russia was unknown. Data received from radio-collared Alaska-Chukotka polar bears indicate that female polar bears spend a majority of their time, and den almost exclusively, in Russian territory (Garner et al. 1990). Both populations are protected under the 1973 Agreement.

Both the 1973 Agreement and the MMPA allow for the taking of polar bears. The 1973 Agreement specifically allows for “nationals” to take polar bears, under certain circumstances, whereas the MMPA has an exemption to the general moratorium on the non-wasteful take of polar bears by Alaska coastal dwelling Natives for subsistence and handicraft purposes. The MMPA (Section 101(b)) defines Alaska Natives as “any Indian, Aleut, or Eskimo who resides in Alaska and who dwells on the coast of the North Pacific Ocean or the Arctic Ocean.”

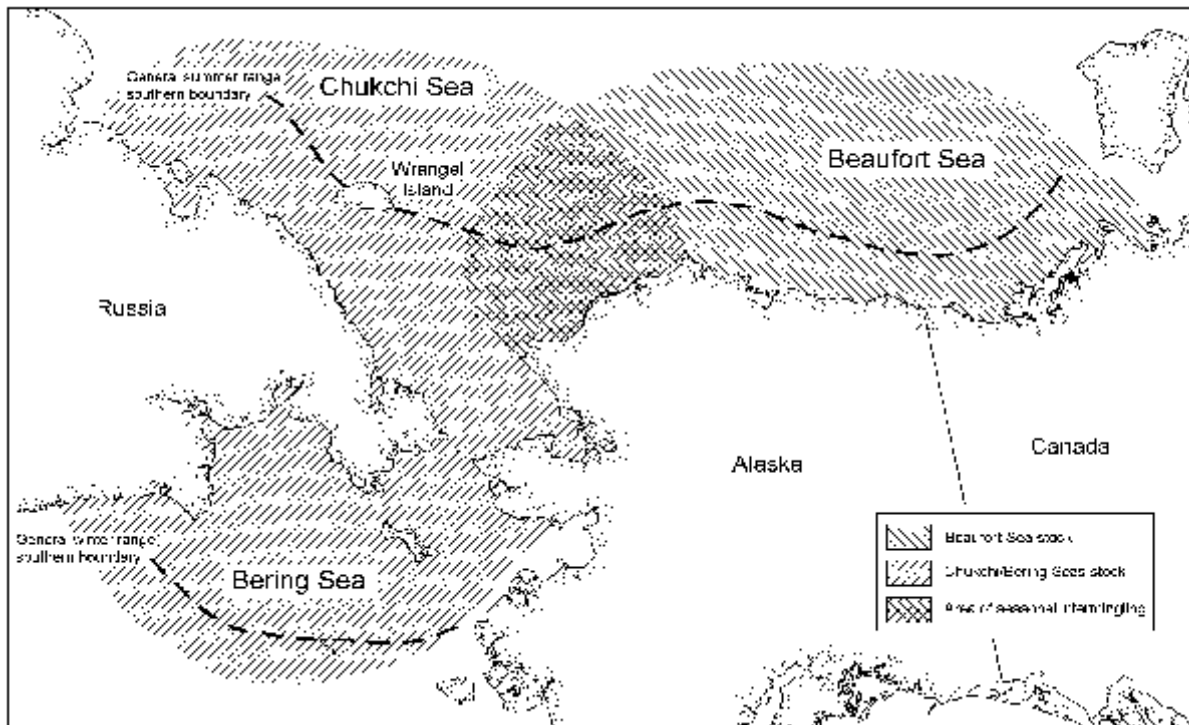


Figure 1. Generalized distribution of polar bears and primary hunting villages in the Chukchi, Bering, and Beaufort seas.

In 1988, the North Slope Borough/Inuvialuit Game Council Agreement (NSB/IGC) was developed between the Inupiat Natives of the North Slope Borough in the U.S. and the Inuvialuit of the Northwest Territories, Canada (Appendix B). Its purpose is to provide further protection of the southern Beaufort Sea population. This agreement, which provides for harvest quotas, protection of females, cubs, and denning bears, and other conservation measures, is modeled after the 1973 Agreement and is more restrictive than the MMPA with respect to limitations on take.

However, there is no similar management agreement between Alaskan and Russian Natives for the Alaska-Chukotka population, nor is there a domestic local management agreement. Alaska Natives harvest an average of 87 polar bears per year from this stock. In recent years the Alaska harvest has declined. The Russian Federation (formerly U.S.S.R.) has prohibited all hunting of polar bears since 1956.

International trade in polar bears is governed by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Polar bears are listed in Appendix II of CITES which includes those species that “although not necessarily now threatened with extinction may become so unless trade in specimens of such species is subject to strict regulation in order to avoid utilization

incompatible with their survival.” Polar bears in the Chukchi/Bering seas are not now (USFWS 1995a) nor in the foreseeable future expected to be threatened with extinction.

A complete ban on hunting of polar bears in the former Soviet Union became effective in 1956 after a special decree by the former U.S.S.R. Council of Ministers. This ban was reaffirmed in 1975 when polar bears were designated as a rare species (category III) in the Red Data Book of the U.S.S.R., a comprehensive Russian species status account. The only permissible use of polar bears as a category III species is the limited capture of live bears by special license.

An increase in the frequency of polar bear/human encounters in eastern Russia thought to be associated with population increases has prompted the nature conservation authorities in the Russian Federation to consider a change to the status of polar bears from category III to category V (restored species) in the Red Data Book of the U.S.S.R. (Uspensky and Belikov 1991 and Belikov 1997).

The dissolution of the U.S.S.R. on January 1, 1992, resulted in the decentralization of political authorities and increased the level of economic pressure on the Russian republics and autonomous districts as they entered a free market economy. Following the dissolution of the U.S.S.R., illegal, unregulated hunting in Russia’s eastern territories has resulted from increasing economic pressures. Therefore, the Service is concerned that the continued illegal take or the potential opening of lawful harvest seasons in Russia, combined with the legal unregulated harvest in Alaska, could depress the Alaska-Chukotka population in the absence of a science-based, coordinated management program involving Alaska and Chukotka Native user support and implementation.

B. IDENTIFICATION OF GOVERNMENT ACTION

The proposed federal action and preferred alternative (Alternative 3) is to develop a cooperative agreement between the U.S. and Russia, consistent with the 1973 Agreement and conservation principles of the MMPA. The agreement would enable joint management of the Alaska-Chukotka polar bear population. These arrangements are to be established through conclusion of a bilateral agreement between the U.S. and Russia and an associated agreement between organizations representing the U.S. and Russian Native groups who would be the exclusive subsistence users of this population. The agreement would enable a sharing of management responsibility by the federal governments and Native users of both countries.

An agreement would primarily affect the Native users in Alaska and Russia. Since polar bears have not been hunted legally in the former Soviet Union, or more recently the Russian Federation, since the ban took effect in 1956, upon implementation of an agreement hunting could be legalized for the residents of the northern Chukotka Peninsula of Native ancestry. In Russia, the affected Native peoples are located on the Chukotka Peninsula. They are comprised of Yupik, Chukchi, and Even Native people. Russian users are organized and represented by the Chukotka Native Marine Mammal Commission, formerly the Umq’a. ^{1/} In Alaska, the primary users are Inupiat and Yupik Natives from

the villages of Barrow, Wainwright, Point Lay, Point Hope, Kivalina, Shishmaref, Wales, Brevig Mission, Gambell, Savoonga, and Little Diomed. These Alaskan users are organized and represented by the Alaska Nanuuq Commission.

An important objective of the proposed federal action is to ensure the active involvement of the affected Alaskan and Chukotkan Native groups in the conservation and management of the Alaska-Chukotka polar bear population. For this reason, the envisaged government-to-government agreement would delegate important management and implementation responsibilities, including proposed allocation, quotas, and enforcement measures, jointly to these two Native groups. The U.S. and Russian governments would retain the ultimate responsibility for the conservation and management (including enforcement) of polar bears. Many of the inherently federal decisions would be made in consultation with the two Native commissions.

The government-to-government and Native-to-Native agreements would provide a mechanism to establish a joint commission, in which the representatives of the two governments and the two Native organizations would be full participants in decision-making. This commission would have the primary role in initiating action to maintain the population and overseeing implementation of such action.

The provisions of the agreements would be consistent with the 1973 Agreement and the conservation principles of the MMPA. The Russian ban on hunting of polar bears could continue until effective management measures are developed and enacted to ensure the population remains at a sustainable level.

C. PURPOSE AND NEED FOR ACTION

The purpose of the proposed federal action is to provide for effective conservation and management of the Alaska-Chukotka polar bear population. The agreement will also support additional studies of polar bear population ecology and dynamics to further this purpose. The 1973 Agreement prohibits the take of polar bears, except in specified circumstances, and calls upon the Parties to take steps to protect polar bear habitat. The 1994 amendment to the MMPA, (Section 113(a)), directs the Secretary to consult with Russian officials on developing and implementing enhanced cooperative research and management programs for polar bear conservation.

The primary goal of the proposed federal action is to ensure that take from the Alaska-Chukotka population, is consistent with the 1973 Agreement and the MMPA. The latter may have to be supplemented or clarified through enabling legislation to implement this agreement in the U.S.

¹ The draft EA indicated that the Chukotka Natives were represented by the Umq'a, a counterpart to the Alaska Nanuuq Commission. The Umq'a has since been replaced by the Chukotka Native Marine Mammal Commission established to protect polar bears, walrus, and bowhead whales.

In addition to allocating Native uses, the proposed agreement would recognize the intrinsic values of polar bears to the general public globally and the importance of sustaining the population to provide for these values. Uses could include non-consumptive photography and viewing, as well as consumptive uses by Native communities, provided these uses are consistent with overall conservation of the population.

Another goal of the proposed action is to conserve the ecosystems of the Chukchi/Bering seas and Eastern Siberia Sea which constitute the habitat of this population, with a primary emphasis on denning and feeding areas.

1. Regulation of Take

With the exception of either a catastrophic habitat perturbation, or the cumulative effects realized through a series of small perturbations, no other human activity has the potential to impact polar bear populations to a greater degree than does hunting. In Alaska, the hunting of polar bears on a sustainable basis for subsistence, making clothing, or creating handicrafts on a small scale, is recognized as a valid permissible use under terms of the MMPA. Thus the proposed action places an emphasis on coordination, monitoring, reporting, and compliance with harvest regulations necessary to insure a sustainable population.

As more data on the population size, trend, and/or optimum sustainable population levels are obtained the harvest limit may be modified. Reevaluation of data or results from ongoing or future studies may also provide additional information for quota adjustments. For example, the sustainable yield limit for the Beaufort Sea stock of polar bears is presently modeled on reliable estimates of population size, precise harvest data (including sex-age composition), and 25 years of population trend data and knowledge of the effects of specific removal rates (USFWS 1995a).

Current information for the Alaska-Chukotka population is insufficient on which to base a statistically valid estimate of the population size and optimum sustainable population levels. The best available information on population size is derived from historic and current harvest data, including sex-age composition, denning data from the north coast of the Chukotka Peninsula, Wrangel, and Herald Islands (Belikov 1995, USFWS 1995b), anecdotal information, and traditional knowledge.

In Alaska, the Beaufort Sea and Alaska-Chukotka populations have been subject to comparable management and harvest regimes for the past 40 years. Therefore, evidence of general population growth detected from extensive research for the Beaufort Sea population during the past 20 years may also be representative of the Alaska-Chukotka population trend and status.

When statistically valid scientific information is insufficient to reliably estimate the optimum sustainable population levels and to establish quotas, the population would be managed conservatively. A cautious approach and flexible management framework should be developed to allow revision of quotas and

allocations as new scientific information regarding population size, structure, and health, and harvest composition becomes available. The proposed action would support conducting additional studies and research on the ecology and dynamics of the population.

All forms of take which remove animals from the population or reduce productivity must be considered when allocating harvest quotas. For the population to be maintained at sustainable levels, the population trend must be monitored, and the level of take must not exceed net recruitment. This can be accomplished by: a) accounting for all take that removes animals in the harvest quota (e.g., in addition to hunting, animals killed in defense of life, research mortalities, takes for public display, incidental take, and known poaching); b) setting the quota for subsistence harvest only, while making retroactive adjustments, if necessary, which account for other authorized or unauthorized documented removals in the following year's allowable harvest; and c) authorizing each country, through domestic legislation or agreements, to allocate and account for the harvest of polar bears agreed upon by the participants to the bilateral agreement. Since confidence in the current population size estimate is low to moderate at present, it would be prudent to establish a conservative sustainable limit below the actual sustainable yield using the minimum of a range of population estimates and the lower rates of net recruitment. This biological estimate of sustainable take will be referred to as "harvest limit." The harvest limit may range from a maximum sustainable estimate to a minimum sustainable estimate and may include no harvest.

Maintaining the population of polar bears in the Chukchi/Bering seas at sustainable levels is basic to the proposed action. Ensuring sustainable and viable populations would be required by the scientific advisory group when making decisions and recommendations to the U.S./Russia joint commission (joint commission) regarding sustainable yield. Formation of the scientific advisory group and joint commission are discussed further in Section II.C., Alternative 3. The scientific advisory group would consider the current status of the population relative to potential population size. A principal factor to be considered in order to assure that the populations remains sustainable would be the determination that all combined removals would not exceed net recruitment into the population.

The two most critical parameters for estimating sustainable harvest are population number and the adult female survival rate. A basic formula for describing sustainable harvest rate (H) follows:

$$H = N (0.015/P_f)$$

where N is the total number of individuals in the population and P_f is the proportion of females in the harvest measured directly through accurate harvest returns.

Principles of "optimum sustainable population" (OSP) levels as described within the MMPA (carrying capacity of the ecosystem and maximum net productivity levels) would continue to be considered in making future management decisions for activities conducted within U.S. territory under provisions of the MMPA. Additional information relative to population vital rates and future population trend indices, such as a denning index or other population information relative to its size, status, and welfare, will also be evaluated to assure population sustainability. If information indicates that the population may not be

at a sustainable level then further taking restrictions would be recommended by the scientific advisory group and instituted through the joint commission and the parties.

The overall sustainable harvest limit would refer to the number of bears which can be taken from the shared Alaska-Chukotka population annually and would be set by the joint commission based on the best biological data available and advice from the scientific advisory group as described above and in Section II.C. The “allocation” would refer to the apportionment of the harvest limit between the U.S. and Russian jurisdictions. “Quota” would refer to the proportion of the allocation divided between the communities within a jurisdiction. The joint commission would delegate the responsibility to the Native-to-Native committee to determine the allocation between the two countries (preferred Alternative 3), or alternatively the joint commission may determine the allocation between the two countries. In either instance the parties to the Native-to-Native agreement (Chukotka Native Marine Mammal Commission and the Alaska Nanuuq Commission) would determine harvest quotas for each community within their respective jurisdictions.

2. Habitat Conservation

The objective of habitat conservation is to maintain the functional integrity of the natural ecosystem. For polar bears, there is a need to conserve those habitats considered essential for denning, feeding, breeding and seasonal movements, or any areas where polar bears and prey species concentrate. Although knowledge on the ecology of polar bears has increased dramatically during the past 20 years, some aspects remain poorly understood, particularly the quantitative aspects of habitat utilization. Since population numbers often reflect the quality of habitat, it is noteworthy that Alaska populations are thought to have increased in recent years and appear to be at healthy levels and within the carrying capacity of their environment. This growth is primarily attributed to maintenance of the habitat base and the approximate 50% annual reduction in harvest which occurred with the implementation of the MMPA in 1972.

Conservation of polar bear habitat within Alaska is affected by land ownership, land leasing status, domestic laws and international treaties and agreements. Land ownership in the U.S., within the range of polar bears, is comprised of federal, state, Native, and private lands. The marine environment is controlled by federal and state jurisdiction. State jurisdiction normally extends from the mean high tide seaward three nautical miles and includes the offshore barrier islands. Federal jurisdiction extends beyond the three mile limit.

Implementing habitat conservation measures on non-federal lands is problematic. Some existing laws provide varying degrees of potential habitat protection, including the MMPA, the Outer Continental Shelf Lands Act of 1953, the Coastal Zone Management Act of 1972, the Marine Protection, Research, and Sanctuaries Act of 1972, and the Alaska National Interest Lands Conservation Act of 1980 which established protected areas including wildlife refuges. The Service’s role is primarily advisory to agencies responsible for managing non-federal lands.

The two existing international agreements which provide for the conservation and protection of polar bear habitat are the 1973 Agreement and the NSB/IGC Management Agreement for the Southern Beaufort Sea Population. The NSB/IGC Management Agreement, although international in scope, does not have the force of international or federal law. Although not binding under international or national laws, this agreement has been an effective tool for conserving the Beaufort Sea polar bear stock. The Service also participates and promotes habitat conservation in international forums such as the Arctic Environmental Protection Strategy (AEPS), the International Union for the Conservation of Nature and Natural Resources (IUCN) Polar Bear Specialists Group, Conservation of Arctic Flora and Fauna (CAFF), Arctic Monitoring and Assessment Program (AMAP), and the U.S./Russia Environmental Agreement-Area V (1994 - 23 U.S.T. 845, T.I.A.S. 7345).

The extent of present and planned future habitat conservation practices in Russia remains largely unknown. In addition to the Area V and AEPS initiatives, Russia provides complete habitat protection to polar bears in the Wrangel and Herald Island Reserves, or *Zapovedniks*. Russia also continues to participate with the U.S. in efforts to establish Beringia Heritage International Park, which would link Russian and Alaskan cultural and scientific programs in the Bering Strait region.

Polar bears are at the top of the Arctic food chain and consequently they are subject to anthropogenic threats such as pollution and destruction of habitat that may reduce the viability of populations or prey species. An objective of a joint U.S./Russian conservation agreement would be to optimize existing habitat conservation measures including specific land-use classifications (i.e., *Zapovedniks*, Nature Reserves, National Wildlife Refuges, and other federal/state designated land conservation areas), and to monitor activities which may affect habitat welfare.

In 1995, the Service produced a report, *Habitat Conservation Strategy for Polar Bears in Alaska*, which identifies polar bear habitats in Alaska and suggests measures to conserve these habitats. Some of these measures could be coordinated under a U.S./Russia agreement such as: a) adopting seasonal and/or temporal measures that address impacts to habitat in known recurrent leads or polynyas, along barrier islands, or any concentration area for bears including denning areas; b) designing and implementing zonal management plans for habitat that include a range of activity levels; c) monitoring pollutants and contaminant levels or trends and developing curative recommendations or joint projects to alleviate threats if detected; d) addressing resource values of the Bering Strait migratory corridor when ice is present between October 30 and June 15; and e) developing and implementing hazardous chemical and waste material plans (including closure of open dumps occurring along the coasts of Alaska and Chukotka) that prevent or reduce the introduction of contaminants into the Arctic environment, including emergency plans for contaminant spills and cleanup.

II. ALTERNATIVES

This section describes the three alternatives for the conservation of the Alaska-Chukotka population. Alternative 1 describes the status quo or “no action” alternative in which the U.S. government would

maintain the current management regime. There are three possible scenarios described under this alternative which provide hypothetical situations in which the Russian government or native organizations could take steps to conserve the Chukotka-Alaska polar bear population. Alternative 2 describes the development of government-to- Native agreements within each country. Alternative 3 (the preferred alternative) describes the development of a conservation agreement between the U.S. and Russian governments, which would provide for regulation of subsistence taking by Alaska and Chukotka Natives through a companion agreement entered into between the native organizations.

A. ALTERNATIVE 1 - NO U.S. GOVERNMENT ACTION

Under the No Action Alternative, three possible scenarios are considered: 1) neither the U.S. nor Russia would take further action; 2) the U.S. would take no further action but Russia would take action; and 3) the Natives of Chukotka and Alaska would enter into agreements without formal involvement of their respective Federal governments.

Under the first scenario, the legal status quo would be maintained in the U.S. The Service would not seek to establish a bilateral polar bear management and conservation program with Russia, and the U.S. would continue its current conservation and management strategy for the shared Alaska-Chukotka stock of polar bears based upon existing authorities.

No bilateral change to the current harvest situation would be undertaken. In the U.S. a general moratorium on the take of marine mammals would continue under the MMPA with an exemption that allows Alaska Natives to harvest polar bears, from non-depleted stocks, for subsistence purposes and for the creation and selling of authentic Native handicrafts and clothing manufactured from polar bears. The Native exemption also requires that polar bears be taken in a non-wasteful manner. Native harvest may be regulated if the affected stock would be determined to be depleted. Native hunters would continue to be required to report the harvest of polar bears and present the skulls and hides to Service representatives for tagging and reporting purposes as required by the Service's Marking, Tagging, and Reporting Program that has been conducted since 1988. Other types of take would be permitted consistent with the MMPA including those for scientific research, public display (zoos primarily), incidental (small) take such as during oil and gas development, and take by federal, state, or local officials for the welfare of the public or the animal.

The Service would continue to support and promote polar bear habitat conservation measures through implementation of the *Habitat Conservation Strategy for Polar Bears in Alaska*, the harvest Marking, Tagging and Reporting Program, working with local user groups, promotion of information and education programs, and participation in related research activities.

Regarding the 1973 Agreement, under the first scenario, the U.S. and Russia would maintain their current level of compliance. In the U.S., the primary issues of compliance are: 1) habitat protection; 2) the prohibition against use of aircraft to take polar bears; 3) take of females, cubs and bears in or

entering into dens or denning areas; and 4) incidental take authorized under the MMPA. In Russia, illegal hunting and the protection and monitoring of habitat components would be the primary issues.

In Russia, the existing ban on hunting could continue, as could the current illegal harvest of polar bears. The magnitude of this illegal take and attribute information regarding the sex, age, location, etc. would remain unknown. Continued availability of polar bear hides and products could contribute to an increase in illegal trade/markets for these commodities.

Under the second scenario, absence of a bilateral agreement with the U.S., hunting could be legalized in Russia. It is possible that Russia could open a harvest in the next two to three years with or without a joint U.S./Russia agreement. Polar bears would need to be reclassified in the Russian Federation's Red Data Book before hunting could be legalized. The likelihood of this occurring is not predictable nor are assessments of the level of harvest or other action such as those to conserve polar bear habitat or control of poaching. Regarding the 1973 Agreement, the U.S. would maintain its current level of compliance, while in Russia the terms of a legalized harvest and habitat conservation efforts would determine their level of compliance.

In the third scenario, Alaska Natives could enter into cooperative agreements with Chukotka Natives to address conservation and management of the Alaska-Chukotka stock of polar bears. In the U.S., these agreements would not receive governmental standing nor implementing authorities since the governments would likely not be party to the agreement. Further, in the U.S. a working arrangement between the government and Native organization could occur to support the Native-to-Native agreement domestically and, in the U.S. the effectiveness of Native-to-Native agreement may be enhanced through ordinances or other prohibitory regulations adopted by tribal governments. Any agreement would need to be consistent with the existing domestic legislation of each country.

Native representatives of both countries would most likely form an operations committee and an advisory group to provide technical and scientific guidance under this arrangement. An existing example is the NSB/IGC Agreement formed in 1988 for joint management of the southern Beaufort Sea population of polar bears that range between Alaska and Canada. This agreement has been successful in maintaining sustainable harvests within the overall harvest guidelines, mainly due to the support of local users. However, this arrangement relies upon an existing functional administrative and management structure and funding which does not currently exist in Russia.

It is unlikely that an effective harvest quota system could be implemented in Russia without government sanction and support for reasons mentioned earlier. In the U.S. a non-binding or self regulating quota system for the Alaska-Chukotka population could be initiated. The harvest guidelines would lack enabling governmental authority and, consequently, they would not be enforceable by the U.S. government.

In order for any bilateral agreement between Native groups to be consistent with domestic U.S. legislation and the intent of the 1973 Agreement, measures would be necessary to ensure that populations are not depleted and that any take would be for subsistence purposes, including the manufacture of authentic Native handicrafts, and be non-wasteful. The use of aircraft and large motorized vessels to hunt polar bears would be expressly prohibited as provided for in the 1973 Agreement. Signatory parties could consider absolute prohibitions on these transportation methods, and establish permissible methods and means of taking polar bears. Restrictions on take of females with cubs, or their cubs, or denning bears as urged in the resolution approved by the Parties to the 1973 Agreement could be addressed.

Habitat protection would likely remain at status quo levels in both countries. Joint international research and monitoring programs would continue to be conducted by the governments of each country with varying degrees of participation from, and coordination with, the Native community.

B. ALTERNATIVE 2 - GOVERNMENT-TO-NATIVE AGREEMENTS WITHIN EACH COUNTRY

Under Alternative 2, a cooperative agreement between the U.S. government and Alaska Natives would address conservation and management of the Alaska-Chukotka stock. International bilateral conservation and co-management strategies would not be initiated. The cooperative agreement would likely contain conservation and management objectives similar to those described in the NSB/IGC Agreement and make allowances for all forms of documented takes in Russia. The Russian government could develop a similar unilateral agreement with its own Native users. A government-to-Native agreement in Russia would be contingent on the Russian Federation and Chukotka Autonomous District entering into a management arrangement. Inter-jurisdiction development of these agreements would occur independent of the other jurisdiction's decision to develop a similar in-country agreement.

Under Alternative 2, an advisory group would likely be formed to function similar to the joint commission proposed under the selected alternative (Alternative 3) but would consist only of representatives from within each country respectively and would operate without the benefit of international representation or coordination. In Alaska, subsistence hunting would continue unrestricted under the MMPA, provided that the population is not found to be depleted. Binding sustainable yield harvest limits and quota agreements between the two countries would not be instituted. The federal government and/or Natives of both countries could independently develop non-binding harvest guidelines and institute them through self-regulation. Any contractual commitment by the parties regarding harvest quotas in the absence of implementing ordinances or regulations adopted by tribal governments, would not be subject to federal enforcement authority in the U.S. due to the provisions of Section 101(b) of the MMPA unless the MMPA were amended or additional authorization were sought through stand-alone legislation such as indicated within Alternative 3. In Russia, the federal ban on hunting would probably continue due to the lack of international support or standing offered through a formally recognized unified management regime. Existing national economic and political issues would

probably continue to take precedence due to their urgency while conservation initiatives would be relegated to a lower priority.

The Service would continue to work with Alaskan Native organizations, state, federal and private landowners and industry to conserve polar bear habitat and the Arctic and marine ecosystems of which they are part.

Regarding the 1973 Agreement, the U.S. would enhance its current level of compliance if an agreement with Native users could be reached to establish harvest guidelines, to protect females, cubs, and denning bears, prohibit the use of aircraft and large motorized vessels to take polar bears, and identify direct habitat protection measures.

**C. ALTERNATIVE 3 - GOVERNMENT-TO-GOVERNMENT AGREEMENT
WITH A NATIVE-TO-NATIVE AGREEMENT (PREFERRED
ALTERNATIVE)**

This is the proposed action, under which the federal governments of Russia and the U.S. would enter into a bilateral agreement for the joint conservation and management of the shared Alaska-Chukotka polar bear population. A government-to-government agreement would provide a declarative framework for a companion Native-to-Native agreement. An interpretive document may accompany the government-to-government agreement to clarify the intent of the various conservation objectives. The Native-to-Native agreement would elaborate on the details of subsistence harvest allocation between the two countries, and would serve as a basis for management, research, enforcement, and monitoring programs related to the subsistence harvest of polar bears. These programs would be binding on both the respective Native organizations and the federal governments as described in the government-to-government agreement. Programs could be conducted jointly or in consultation with the respective Native or government entity.

Some enforcement authority could be delegated through agreements between the Native groups and their respective federal governments. Each country would utilize existing domestic enabling authorities to the maximum extent possible, but additional enabling legislation for delegating enforcement authority would probably be required. The delegation of enforcement authority from the federal government to the indigenous Native people in each country on the basis of existing laws would be possible although this can be complicated.

Other mechanisms could include Section 119 of the MMPA which provides for development of cooperative agreements for the co-management of subsistence use between the government and Native organizations could include self-regulation of harvest guidelines.

Further, in the case of bowhead whales, under the National Oceanic and Atmospheric Administration (NOAA)/Alaska Eskimo Whaling Commission (AEWC) cooperative agreement, some enforcement

responsibility has been delegated to the AEWG and civil actions brought by the government on behalf of the AEWG have been upheld in the courts. The authority for NOAA/AEWG enforcement actions comes from the International Convention for the Regulation of Whaling (Whaling Convention). A comparable authority does not currently exist for polar bears under this or other alternatives. In the U.S., new implementing legislation to regulate Native take of polar bears prior to depletion would be necessary in order to establish binding quotas, and additional authority may be needed for delegating some enforcement authority for the regulation of subsistence harvest activities. The Service would oversee administration of delegated responsibilities, and retain sole enforcement authority over illegal sale, trade and transport of polar bears and/or their parts. The Service could seek increased authority to coordinate and consult on the conservation of internationally important habitat.

In the U.S., the Service would enter into a cooperative agreement with the Alaska Nanuuq Commission to clearly delineate government and Native organization roles and responsibilities, implement the terms of the agreement, and ensure that harvest quotas, based on harvest guidelines, are enforceable and accompanied by a monitoring and verification program to ensure accountability. The Service would continue to maintain overall responsibility for polar bears in the U.S. as would the Russian Federation in Russia.

In Russia, an unquantified illegal harvest has occurred in recent years. The goal of any agreement would be to institute a scientifically-based management program on both sides of the Bering Strait, accompanied by enforcement to place illegal take under control and management programs into place. To develop management programs in Russia, funding for management, research, and enforcement components, including a harvest monitoring and verification program, would be necessary. At present, the Chukotka Native Marine Mammal Commission may lack the organizational structure or the finances necessary to meet the requirements mentioned above. Furthermore, it lacks experience in communicating with hunters on carrying out enforcement related activities (Lentfer pers. comm.), although past discussions with its representatives indicate a commitment to implement this conservation agreement. The Russian government and the U.S. government would retain an overall active presence in polar bear conservation and management activities. Due to considerations unique to Russia and Chukotka, the government may be more active in the initial implementation phase until the Chukotka Native Marine Mammal Commission becomes more firmly established.

A joint commission would be established to oversee implementation of the terms of the agreement (in this alternative only). Specifically, it is envisioned that the joint commission would consist of four members (two per jurisdiction): one federal government representative and one Native representative from each country, respectively. The Native representative in Alaska would be a member of the Alaska Nanuuq Commission. The activities of the joint commission would be open for observation and input by the general public. Non-government organizations or the general public could also attend, observe, and participate in joint commission meetings in a non-voting status. Additional avenues for public input could be through a scientific advisory group, formed to provide recommendations to the joint commission. The scientific advisory group could consist of individuals from the government,

academia, Native hunting community, conservation community, and/or the public with an interest, expertise, or background in polar bear conservation.

Alternatively, although not selected in the preferred alternative, an additional representative(s) of the public-at-large per jurisdiction could be included in the joint commission. This representative, as the Native representatives, would be accountable for the conservation and use of polar bears as described under this agreement. The activities of the joint commission would continue to be open for observation and input by the general public.

The joint commission would operate by consensus. Operating procedures, including a process for conflict resolution when consensus is not achieved, would be established at the first meeting. The bilateral agreement would probably include the general guidelines or operating procedures for the joint commission as an appendix, or these guidelines could be developed at the first meeting. The joint commission's responsibilities would be to: 1) determine the take provisions and establish the total harvest limit (not to exceed annual net recruitment of the Alaska-Chukotka stock of polar bears, and maintain the population within the range determined to be healthy and sustainable); 2) establish a harvest monitoring/reporting/verification program, with prohibitions on take, trade and sale consistent with the bilateral agreement; 3) identify, prioritize, and coordinate joint research and other monitoring programs; (i.e., contaminants monitoring, harvest monitoring, standardized population or trend assessment surveys); 4) identify habitats essential to polar bears and recommend joint habitat conservation measures; 5) develop recommendations concerning capture and maintenance in captivity of orphaned and rehabilitated polar bears; 6) develop recommendations for enforcement measures required to meet the goals of the agreement; and 7) prepare and disseminate conservation and educational materials to the interested public. The joint commission would consult with the scientific advisory group on items 1-4 listed above.

The joint commission could meet annually or as deemed necessary, rotating the meeting location between countries. Each country would be responsible for sharing information with their publics regarding the implementation of the agreement, the status of the population, harvest characteristics, research plans, objectives, and results. Public support for polar bear conservation programs under this agreement would be essential to effectively achieve its objectives. To this end, joint commission meetings would be open to public attendance and participation and reports or minutes would be available to the public and to non-government organizations.

At present, some essential authorities do not exist under the MMPA. Under Alternative 3, the U.S. would seek additional legal authority beyond that currently afforded in the MMPA. Options for obtaining this legal authority include: 1) introducing stand-alone legislation; 2) amending the MMPA; or 3) ratifying a government-to-government agreement that is self-implementing. Additional authority may be necessary to regulate take, provide enforcement, delegate certain aspects of implementation to the Native-to-Native agreement, and enhance opportunities for habitat conservation. In Alaska, establishment of a harvest limit, allocation of the harvest limit between countries, and establishment of a

quota system would be a significant management change, since the MMPA does not currently provide authority to restrict the number of polar bears taken for subsistence purposes by Alaska Natives, unless populations are found to be depleted.

The 1994 amendments to the MMPA added Section 119. This section provides authority to the Secretary of Interior to enter into cooperative agreements for co-management of subsistence use of marine mammal stocks with Alaska Native organizations. The proposed bilateral agreement would sanction a co-management arrangement with and between Alaska and Chukotka Native organizations. Section 119, while providing authority for this type of management arrangement, does not supersede or modify Section 101(b) of the MMPA regarding the Native exception to the moratorium on taking, and those provisions of Section 101(b) regarding taking would continue to apply with respect to the regulation of take for non-depleted populations. Specifically this arrangement would not enable implementation of binding quotas in the U.S. It may however allow for development of non-binding harvest guidelines within the U.S. Development of a mechanism, such as separate legislation, to enable the adoption and enforcement of binding quotas is an objective central to the bilateral agreement which technically could not be achieved through Section 119 without amending the MMPA or supplementing its authority with separate legislation. Binding quotas are preferred although a mechanism for instituting non-binding harvest guidelines under the provisions of Section 119 could apply. A contractual arrangement with the Alaska Nanuuq Commission would allow for development of non-binding quotas. However, Section 119 would not apply to development of the Alaska and Chukotka Native-to-Native implementation agreement.

Another mechanism to implement the bilateral agreement would be through a memorandum of understanding such as used by the NOAA in developing a cooperative management regime with the AEWG under the auspices of the 1946 Whaling Convention. This arrangement is enforceable due to the authority afforded by the Convention. For the proposed bilateral agreement for polar bears authorities similar to the Whaling Convention do not exist. Therefore, binding quotas would not have the force of law even if the technical legal issues were resolved. However, this option may provide a mechanism for developing self-regulated harvest guidelines in a future polar bear agreement if Alternative 3 were not implemented.

Development of take regulations should ensure consistency with the objectives of the 1973 Agreement in consideration of sound conservation principles, consider ongoing customary and traditional harvest practices, and address the issue of commercial use of polar bear products or byproducts. The agreement would prohibit large scale commercial uses of polar bears or their by-products. No expansion of existing uses in Alaska would be anticipated.

The take regulations would also consider factors other than population size and recruitment, such as population bounds and areas of overlap between other populations. In the areas of population overlap the relationship of existing management strategies or allocation would be taken into account (e.g., NSB/IGC conservation agreement for the southern Beaufort Sea).

A bilateral agreement would increase the ability to conserve important feeding and denning areas in both countries because greater emphasis would be placed upon international cooperation. Similarly, ongoing and proposed joint research and monitoring programs for the study and conservation of the Alaska-Chukotka population of polar bears would also likely receive enhanced levels of recognition and funding.

In Alaska, Alternative 3 would enhance compliance with the 1973 Agreement since the Native to Native agreement would include provisions for the protection of females, cubs-of-the-year, and denning bears, and the prohibition of the use of aircraft and large motorized vessels for hunting, and implementation of harvest guidelines and quotas parallel to the language in the government-to-government agreement. In Russia, compliance would be enhanced if illegal hunting were curbed, and habitat protection (Wrangel and Herald Island Reserve) were maintained or enhanced.

III. DESCRIPTION OF THE AFFECTED ENVIRONMENT

A. PHYSICAL

1. Chukchi and Bering Seas

The Chukchi Sea lies north of the Bering Strait, between the northwest coast of Alaska and the northeast coast of the Russian far east, and extends north to the Arctic Ocean (Figure 1). The Chukchi Sea is a wide and shallow continental-shelf sea that ranges from 600-800 kilometers wide and has a mean depth of 50 meters.

The Bering Sea lies south of the Bering Strait and north of the Pacific Ocean and receives water from the North Pacific through the Aleutian Island chain. In winter, almost half of the Bering Sea is ice covered; in summer, it is ice free, although surface temperatures remain cold (<8° Celsius).

Recurring polynyas (non-linear areas of open water that are surrounded by ice) occur south of St. Lawrence Island in the Bering Sea, north and south of Point Hope, between the Seward and Point Hope peninsulas, and off the northern coast of the Chukotka Peninsula in the Chukchi Sea (LaBelle et al. 1983, Stringer 1980).

The Bering Strait is a physical constriction separating the Bering and Chukchi seas that is used by polar bears traveling to and from the Bering Sea. Polar bears use the Bering Strait as a movement corridor in the late fall and winter when the ice moves south, and in the spring as the ice retreats. This habitat is not used in summer and fall when no ice is present.

2. Sea Ice

The dominant factor in the physical and biological oceanography of the Chukchi Sea is the formation, persistence, and retreat of sea-ice. Sea-ice begins forming over the northern portion of the Chukchi Sea by late September or early October. By early November, the southern extent of the ice has usually covered the Chukchi Sea and entered the Bering Sea. The Chukchi Sea remains ice covered until early July with the maximum retreat occurring in September. In effect, sea-ice covers the Chukchi Sea for nine months of the year (LaBelle et al. 1983).

The sea-ice consists of three distinct zones: land-fast ice, drifting pack ice (shear zone), and the polar pack ice. The land-fast ice extends from the shore out to grounded ridges which first form in about 8 to 15 meters of water and tend to become more stable and resistant to displacement or deformations by wind and current as the winter progresses. The polar pack ice covers the central polar basin and consists of annual ice and heavier multi-year ice. Drifting ice floes occur in the zone between the land-fast ice and the polar pack ice and consist of annual and multi-year ice that is loosely or tightly packed. Linear openings surrounded by sea ice, called leads, and polynyas are often found in the drifting pack ice. Large multi-year floes often separate from the polar pack ice and drift south into the Chukchi Sea, but rarely into the Bering Sea, which is covered primarily with annual sea-ice (Garner et al. 1994a). Polynyas and leads occur throughout the winter, but their precise locations are usually unpredictable. In some instances, the location of certain polynyas and leads are generally predictable and are called "recurring polynyas and leads" (Figure 2).

In summer, shore-fast ice melts and the pack ice recedes northward, resulting in an area of open water along the coast. By mid-July, much of the ice in lagoons and land-fast ice near shore has melted. In the Bering/Chukchi seas the pack ice recedes approximately 870 miles from the maximum ice cover in the winter, while in the Beaufort Sea the ice pack recedes approximately 60-95 miles (Garner et al. 1994a). The open-water season is triggered by warming temperatures, usually about late June or early July. The extent of open water along the coast varies from year to year. Variation is dependent upon climatic factors.

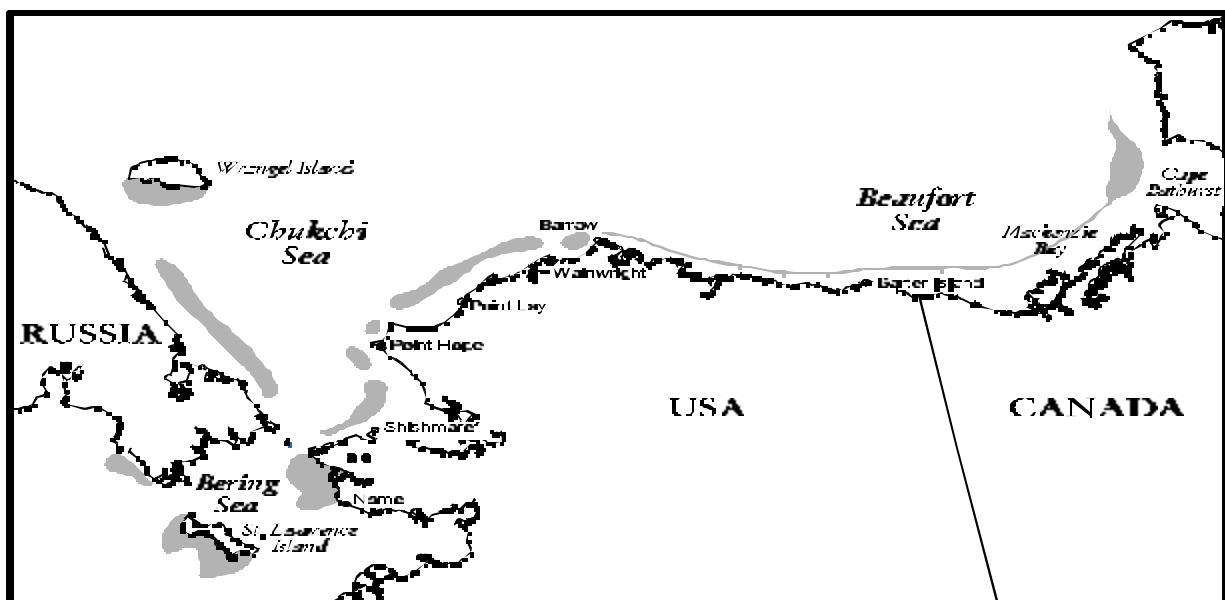


Figure 2. Recurrent leads and polynyas of the Bering, Chukchi, and Beaufort Seas
In winter, sea-ice in the Chukchi Sea moves south whereas the sea-ice in the Beaufort Sea moves east to west (Lentfer 1972). As the sea-ice moves south it becomes compressed between the Chukotka Peninsula in Russia and the Seward Peninsula in Alaska and eventually some of this ice is extruded through the Bering Strait.

3. Water Movement

Strong northern currents, driven by the difference in sea level between the North Pacific and Arctic oceans, bring two water masses into the Bering Strait. The Bering Sea water is colder and more saline and flows through the western Bering Strait, while the Alaska coastal water is warmer, less saline and flows through the eastern Bering Strait. The Alaska coastal water flows in a band parallel to the northwest coast of Alaska. Some polynyas that are important for polar bears and seals occur within this band. Tides are small (<1 meter) and probably not significant to this system (Pitman 1984).

4. Mainland Habitat

Flat, tundra covered terrain with wetlands, drained lake basins, small ponds and streams, and numerous shallow lakes characterize most of the mainland adjacent to the Bering and Chukchi seas. Bluffs along beaches and cut banks along rivers provide some topographical relief and are suitable areas for polar bear denning. Barrier islands with sand beaches occur along both the Chukotka Peninsula and between Cape Wales and Barrow in Alaska.

5. Habitat Use

Polar bears use both marine and terrestrial habitats for feeding, denning, breeding, and seasonal movements. The terrestrial environments (i.e., barrier islands, mainland) are stable and predictable, and are used primarily for denning, feeding on carcasses, and movements. The marine habitats (shore-fast ice, pack ice, shear zone, leads and polynyas) are less stable and may change depending on the wind, current, and temperature. Polar bear use of these different habitat types varies seasonally. In Alaska, polar bears use the sea-ice throughout the year and have only limited land use during the summer months (Amstrup 1986, Garner et al. 1990). For example, recurring leads and polynyas are important feeding areas during winter and spring. Open water areas between ice flows which occur during the formation and breakup of ice are important feeding areas during fall, winter, and spring. Mainland areas, high bluffs along the beaches and barrier islands are important denning areas during the fall, winter, and spring. Barrier islands are important polar bear feeding areas where marine mammal carcasses collect during the fall.

A majority of the polar bears in the Alaska-Chukotka population den on land within Russian territory on Wrangel Island and Herald Island and the northern coast of the Chukotka Peninsula (Stishov 1991). Wrangel and Herald islands have some of the highest denning concentrations (estimated 250- 500 dens/year) of polar bears in the Arctic (Stishov 1991, Belikov 1992, Stishov unpublished data). Stishov (1991) estimated that 50-120 dens were located on the Chukotka Peninsula.

B. BIOLOGICAL

1. Distribution

Polar bears are found throughout the Arctic, usually in association with sea ice. They are found as far south in the eastern Bering Sea as St. Matthew Island and the Pribilof Islands (Ray 1971), and are commonly found within 300 km of the Alaskan coast of the Chukchi and Beaufort seas, from the Bering Strait to the Canadian border. The Beaufort Sea population (from Point Barrow to Cape Bathurst, Northwest Territories) is estimated to be 1,300 to 2,500 bears (Amstrup 1995, USFWS 1995a). While reliable information on the size of the total Alaska-Chukotka population is not available (USFWS 1995a-Appendix F), the most widely accepted estimate is 3,000 to 5,000 animals (Amstrup 1986, Belikov 1995). Amstrup (1995) determined that polar bears originally captured in the Beaufort spent approximately 25% of the time seasonally in the northeastern Chukchi Sea, while bears captured in the Chukchi Sea spent only 6% of the time seasonally in the Beaufort Sea.

The general distribution of the Alaska-Chukotka population is shown in Figure 1. The population boundaries of this proposed agreement are based primarily on telemetry studies of adult female polar bears captured in the Chukchi/Bering seas region (Figure 3). Population boundaries may be refined by development of new techniques to analyze existing data, acquisition of new data through ongoing research, and from local knowledge. Wrangel and Herald islands, and the northern Chukotka Peninsula in Russia, are known to be the primary denning areas for the Alaska-Chukotka population.

Polar bears in the Alaska-Chukotka population have the largest activity area, 150,000 to 350,000 km² of any known population (Garner et al. 1990). Polar pack ice and consequently polar bear movements in the Chukchi/Bering seas contribute to these great movements (Garner 1994b) .

2. Human Use

Alaska Natives have hunted polar bears for thousands of years. In the 1950s and 1960s and until the passage of the MMPA in 1972, polar bears were heavily hunted by sportsmen. Between 1961 and 1972 the number of polar bears taken annually in Alaska ranged from 148 to 405 and averaged 260 (Lentfer 1973, Amstrup et al. 1986) (Figure 4). The MMPA vested management of marine mammals with the federal government and established a general moratorium on all forms of take. The MMPA also recognized other permissible forms of take for scientific purposes, public display, and unintentional incidental take. An exemption under the MMPA provided for subsistence and handicraft harvest of polar bears by Alaskan Natives. This subsistence activity is monitored by the Service. Native harvest of polar bears has averaged approximately 115 animals per year since 1980 (Figure 4). Approximately 70 percent of this harvest (80 animals/year) is by residents of the Chukchi and Bering seas regions, with the remainder in the Beaufort Sea area (Table 1). (Schliebe et al. 1995, USFWS unpublished data).

Removal of animals from the population by other permissible forms of take has been minor and averages less than one bear per year in Alaska since 1990.

In Russia, hunting of polar bears from Spitsbergen to the Chukotka Peninsula has been banned since 1956 (Uspensky and Belikov 1991, Belikov 1995). Since the ban in 1956, 10 polar bears on average are killed annually in defense of life and or property, and small numbers of cubs are taken for the restocking of Russian zoos (Belikov 1995). Local governmental organizations responsible for renewable resources have noted an increase in illegal hunting (Belikov 1995).

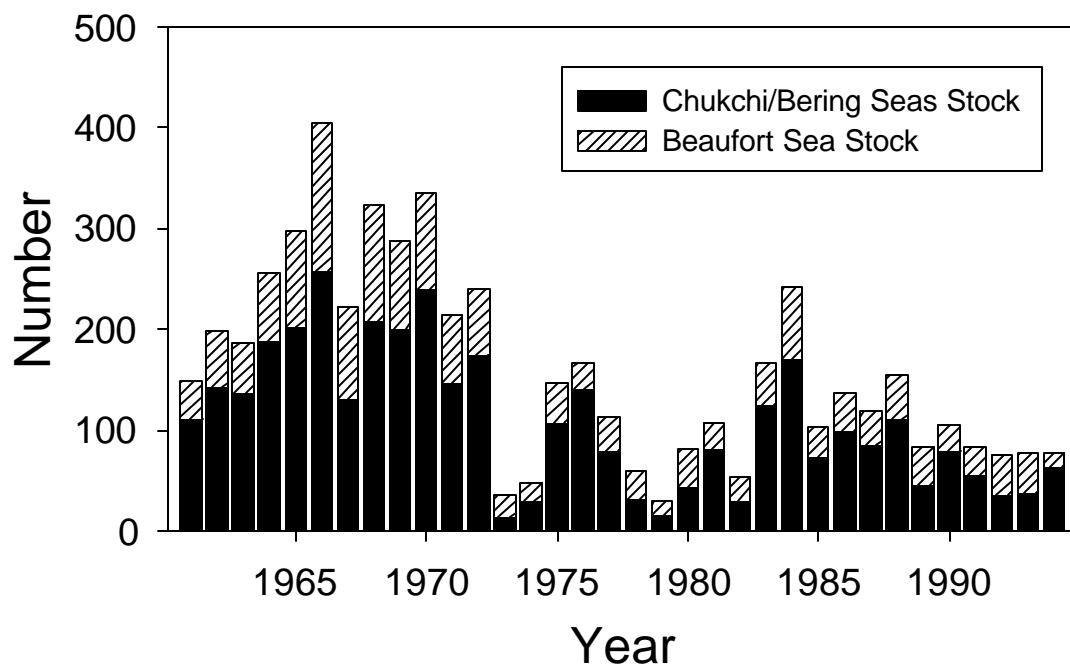


Figure 4. Annual harvest of polar bears in Alaska (1960-1994). Both stocks shown for comparison.

Table 1. Polar bear harvest for villages harvesting bears from the Alaska - Chukotka population.

Village	Harvest Year ^a														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Kaktovik ^b	23	1	1	1	1	4	3	6	9	2	2	-	3	5	1
Nuiqsut ^b	1	-	1	-	1	4	2	4	3	-	-	2	-	5	1
Barrow ^b	8	6	14	27	33	14	18	15	29	14	13	23	26	26	7
Atkasuk ^b	-	-	-	-	-	-	-	-	2	-	-	-	1	-	-
Wainwright ^b	6	14	16	34	18	8	13	9	15	6	6	5	7	10	6
Point Lay	1	3	-	8	-	6	3	2	2	-	2	-	2	1	1
Point Hope	11	5	21	30	18	17	13	9	9	23	18	9	16	8	18
Kivalina	-	1	-	3	3	2	1	5	1	5	3	2	1	1	2
Shishmaref	30	22	13	82	12	20	6	13	24	16	7	3	4	5	11
Kiana	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Kotzebue	-	-	-	2	-	2	3	-	-	3	-	-	-	-	-
Nome	-	-	-	1	-	-	-	3	-	-	-	1	-	-	1
Golovin	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Wales	6	11	7	20	15	11	7	7	11	3	3	2	4	1	2
Brevig Mission	-	-	-	5	1	-	-	-	-	1	-	-	-	-	-
L. Diomede	1	4	-	10	5	7	8	19	9	7	3	6	6	8	10
Savoonga	16	21	9	48	7	21	5	12	14	10	12	6	-	23	10
Gambell	6	1	6	26	4	17	20	25	13	9	11	5	4	28	9
Ageklekak	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Emmonak	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Hooper Bay	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Total	109	90	88	297	120	133	103	129	141	99	80	63	73	123	86

^a Harvest season extends from July 1 to Jun 30 the following year. Harvest year 1=1980-81, 2=1981-82, 3=1982-83, 4=1983-84, 5=1984-85, 6=1985-86, 7=1986-87, 8=1987-88, 9=1988-89, 10=1989-90, 11=1990-91, 12=1991-92, 13=1992-93, 14=1993-94, 15=1994-95

^b Harvest from these villages, which are party to the NSB/IGC management agreement, is currently attributed to the Southern Beaufort Sea Population.

3. Feeding

Sea-ice and food availability are two important factors affecting the distribution of polar bears. Research by the Service suggests that polar bears spend most of their time in the shear zone and the active ice immediately beyond (Amstrup 1995). Polar bears feed primarily on ringed seals (*Phoca hispida*) and to a much lesser extent on bearded seals (*Erignathus barbatus*) and Pacific walrus (*Odobenus rosmarus divergens*). The distribution and productivity of ringed seals has been shown to vary greatly in the southern Beaufort Sea. Ringed seal distribution may be affected by changes in ice conditions or prey availability (Stirling et al. 1982). Russian scientists believe that Pacific walrus may also be an important food source during the summer in the northern Chukchi Sea (S.E. Belikov, unpublished data in Garner et al. 1994a).

The polar bear is an opportunistic feeder, sometimes feeding on whale and walrus carcasses and also human refuse. Drifting pack ice off the Alaskan Chukchi/Bering seas coast supports polar bears primarily due to the abundance and availability of seals. Adult female polar bears with satellite collars moved south in the fall and winter, with the advancing ice pack, and north in the spring and summer, into the southern Chukchi Sea, with the receding ice pack (Garner et al. 1990, Garner et al. 1994a). Leads and polynyas are important winter habitats for many marine mammals and are areas where polar bears concentrate to feed (Stirling 1980, Stirling et al. 1993). Two of the more important persistent and recurring leads are the Chukchi Polynya located along the western coast of Alaska (USFWS 1995b) and the Chukotka polynya off the northeast coast of the Chukotka Peninsula. The Chukchi and the Chukotka polynyas and lead systems provide open water during late winter and spring and are important feeding areas for polar bears and seals.

4. Denning

Only parturient female polar bears den for extended periods during the winter. Male polar bears in the Chukchi/Bering seas and the Beaufort Sea generally do not hibernate, although they may occasionally seek temporary protective shelter during extreme weather conditions. Pregnant females enter the den by late November and the young are usually born in late December or early January (Harrington 1968). Normally there are two cubs, occasionally one cub, and rarely three cubs. Female bears are quite sensitive to outside disturbances during this period (Belikov 1976, Lentfer and Hensel 1980, Amstrup 1986). After birth, the female and the cubs remain in the den where the cubs are nurtured until they can walk and stay close to the female. In late March or early April, the female and the newborn cubs exit the den. If the mother moves young cubs from the den before they can withstand the cold, death is likely. Therefore, successful denning, birthing, and rearing activities require a relatively undisturbed environment.

A majority of the polar bears in the Alaska-Chukotka population den on land within Russian territory on Wrangel Island and Herald Island (included in the Russian federal system of nature reserves) and the northern coast of the Chukotka Peninsula (Stishov 1991). Wrangel and Herald islands have some of the highest denning concentrations (estimated 250- 500 dens/year) of polar bears in the Arctic (Stishov 1991, Belikov 1992, Stishov unpublished data). Stishov (1991) estimated that 50-120 dens were located on the Chukotka Peninsula.

5. Population Dynamics

Polar bears have relatively long life spans, low reproductive rates, and occur in relatively low densities. Therefore it may take many years for polar bear populations to recover from unusually high natural mortality events or those that may result from anthropogenic factors such as hunting, or a major oil spill (Taylor et al. 1987), disturbances prior to or during denning, accumulation of contaminants, or displacement from prime feeding areas.

IV. ENVIRONMENTAL CONSEQUENCES

The following section describes the likely impacts of the three primary alternatives described above for the management of the Alaska-Chukotka population. Alternative 1 describes the status quo or “no action” in which the U.S. government would maintain the current management regime. There are three possible scenarios described under this alternative which provide hypothetical situations in which the Russian government or native organizations take steps to conserve the Chukotka-Alaska polar bear population. Alternative 2 describes the development of separate government to Native agreements within each country. Alternative 3 (preferred alternative) describes the development of a declarative agreement between the U.S. and Russian governments which would provide for implementation through a companion agreement between Alaska and Chukotka Natives to manage subsistence harvests. This section highlights the differences and similarities between these three alternative approaches.

These alternatives relate to existing or perceived future threats to polar bears or their habitat. The foremost ongoing concern for the Alaska-Chukotka polar bear population is that the impact of the unquantified illegal harvest and trade or sale of polar bears and their parts in Russia which, combined with the ongoing unregulated subsistence harvest in Alaska, could depress the population. Potential threats to polar bear habitat include: proposed development of an International Northern Sea Route for commercial shipping; the presence of harmful contaminants in the marine ecosystem; oil spills and activities associated with offshore oil, gas and other types of development; transport of petroleum products, and harassment from eco-tourism and helicopters. Existing habitat conservation measures on land and in the marine environment vary with respect to ownership and currently appear to be adequate with respect to human activities in the region. However, any change in the status of development or human activities may result in a greater need to coordinate, monitor and mitigate the impact of these activities.

There are many potential benefits of developing an agreement between the U.S. and Russia for the conservation of the Alaska-Chukotka polar bear population. The main objective is to develop measures which would provide for the joint regulation of take and conservation of habitat by sanctioning and enabling local management programs. The agreement would provide a mechanism to maintain or enhance the conservation of important denning areas, such as Wrangel and Herald islands, feeding areas, such as the active shear zone along the northern coast of the Chukotka Peninsula, polynyas and leads off the Alaskan coast, movement corridors associated with these areas, and the Bering Strait which polar bears use seasonally to travel between the Chukchi Sea and Bering Sea (Garner 1994b).

The agreement would not alter existing provisions of Section 101(a)(5) regarding incidental take of marine mammals in the U.S. It would supplement existing international and domestic treaties and laws relevant to habitat protection and enhance dialogue and coordination for activities with potential to effect the habitat base. Dialogue would occur through the joint commission with input from the scientific advisory group. The joint commission would not be involved in permitting actions. It would however

set take limits that might ultimately have an indirect influence on other forms of removal. The agreement as envisioned would also foster and enhance the probability that joint projects for monitoring the welfare of the Chukchi/Bering seas ecosystem would be conducted. Because of the international nature of the agreement, these types of actions or projects would take on greater importance and emphasis than if they were conducted or attempted independently. Consequently they would probably enjoy a greater likelihood of being implemented.

Consummation of a unilateral, government-to-Native agreement (Alternative 2) or a bilateral government and Native-to-Native agreement (Alternative 3) would enhance the likelihood that steps would be taken to prevent habitat destruction or degradation that results in injury or mortality of polar bears, or reduction of productivity in the Alaska-Chukotka polar bear population.

In the U.S. and Russia, Alternatives 2 and 3 could provide the following benefits to varying degrees: 1) a unified management regime; 2) enhanced coordination between jurisdictions and between governments and local users; 3) management based on sustainable harvest guidelines would provide for proactive harvest adjustments as necessary to maintain populations at sustainable levels (rather than reacting to a depleted population designation after-the-fact as currently used in the U.S.); 4) enhanced habitat conservation, and monitoring; 5) coordinated research; 6) enhanced compliance with the 1973 Agreement; 7) Native support and involvement in co-management regimes; and 8) increased public conservation education.

Both Native and non-Native peoples would be affected, although Native subsistence users would be the group affected most. In Alaska, these are primarily the Inupiat, who live on or near the Beaufort Sea and Chukchi Sea coasts in northern and northwestern Alaska and the Seward Peninsula, and the Siberian Yupik who live on St. Lawrence Island. Under the MMPA, Native subsistence users are the only group currently allowed to hunt polar bears in Alaska. The Alaska Native exemption of the MMPA allows coastal Native Alaskans to hunt polar bears for subsistence purposes. Sport hunting would not be considered a viable use of polar bears for Alternatives 1-3 given the current state of U.S. domestic law, although the waiver provision of the MMPA (Section 101(a)(3)) currently allows the potential for this type of use. While sport hunting would not be a use contemplated by the agreement, it would not be expressly prohibited. Thus future options, while unlikely to be chosen, would remain available. Any reconsideration of sport hunting by either party would require a separate authorizing action, such as waiving the moratorium on take under the MMPA, and in the U.S. would require a separate regulatory action consistent with the National Environmental Policy Act (NEPA).

In Russia, the residents of the Chukotka Peninsula of Native ancestry would be most affected by this agreement. A ban on polar bear hunting, in place since 1956, would likely continue unless the federal government revised the current protected status in their Red Data Book. Polar bears are currently listed in the Red Data Book in Category 3 (rare), and must be reclassified as Category 5 (recovered), in order for hunting to be legalized. Natives on the Chukotka Peninsula have expressed interest in

resuming subsistence hunting. Details of such a program are described in the discussion of the Native-to-Native agreement identified in Alternative 3.

A. ALTERNATIVE 1 - NO U.S. GOVERNMENT ACTION

Under the No Action Alternative, three possible scenarios may occur: 1) neither the U.S. nor Russia would take action; 2) the U.S. would take no action but Russia would take action; and 3) the Natives of Chukotka and Alaska would enter into agreements without formal agreements between their respective federal governments.

Under the first scenario, the legal status quo would continue in the U.S., joint international oversight of the shared polar bear stock would not occur, and bilateral coordination would continue on purely a consultative basis. Each country would retain its current conservation and management strategies for the shared Alaska-Chukotka stock of polar bears; the Service would not seek to establish a joint polar bear management and conservation program with Russia. In Alaska, unrestricted subsistence hunting would continue provided the population remains non-depleted. Binding harvest limits and quotas would not be instituted. Unquantified levels of harvest and the potential for future increases in hunting in Russia would persist as primary concerns.

Current levels of habitat conservation would continue to be provided through existing national laws and the existing system of reserves in Russia and parks and refuges in Alaska. Efforts to conserve important habitat vulnerable to alteration, and to restore degraded habitat, would be initiated as necessary within the framework of existing legal authorities. The Service's role in the regulation of activities which take polar bears, or affect the availability and/or quality of habitat, would support the 1973 Agreement and the MMPA. Coordinated international habitat conservation initiatives would be unlikely under the three scenarios described in the No Action Alternative.

With the No Action Alternative, the current status of habitat conservation under the MMPA and other laws would continue. In the Service's *Habitat Conservation Strategy for Polar Bears in Alaska* completed in August of 1995 would continue to emphasize measures to conserve important polar bear habitat consistent in consideration of national and international obligations. The Service would also continue to promote research regarding the relationship of polar bears and various habitat types and the effect of human influences on these habitats.

In Alaska the Service relies on the oil and gas industry, as the entity with the greatest potential to affect polar bear habitat, to comply with the incidental take regulations and lease sale stipulations to minimize impacts while operating in polar bear habitat. Service-issued Letters of Authorization (LOA) allow for incidental unintentional take of polar bears and specify conditions to minimize harm to polar bears or their habitat as well as provisions to monitor the effects of activities on polar bears. A request for an

LOA is at the operator's discretion. In the absence of an LOA, operators or individuals remain liable for unauthorized takes under provisions of the MMPA. Any reduction in industry's level of participation in this program could alter the level of threat and effects to polar bears or their habitat, and potentially the finding of negligible impact required by the regulations in order to issue LOAs.

Some joint international research and monitoring programs for the study and conservation of the Alaska-Chukotka population of polar bears would continue under Area V of the U.S./Russia Environmental Agreement and the AEPS. Management in Alaska would likely emphasize co-management initiatives to identify and conserve important habitat. Other basic research in Russia, including annual den surveys and behavioral studies of denning have not been conducted in recent years due to funding limitations. Whether studies would be renewed in Russia is speculative, but seems unlikely given the current economic status.

Regarding the 1973 Agreement, the U.S. would maintain its current level of compliance, as would Russia. In the U.S. the primary concerns regarding compliance are: a) habitat conservation; b) the use of aircraft to take polar bears; c) take of females, cubs, and bears in or entering into dens or denning areas; and d) incidental take authorized under the MMPA. In Russia hunting and the conservation and monitoring of habitat components would be primary issues.

Sport hunting would not be permitted in the U.S. Sport hunting and the commercial sale of raw polar bear parts would continue to be illegal unless authorized under a waiver to the MMPA. Any future reconsideration of these issues in the U.S. would require a separate regulatory action consistent with NEPA. In Russia, increased interest in harvesting wildlife, including polar bears, is occurring due to economic hardships in the northern regions and a continued demand in Asian and European markets. A demand by sport hunters to take polar bears is evident.

In the U.S., the 1972 MMPA ended sport hunting which had previously been conducted under State of Alaska management. An option to waive the MMPA moratorium of take (i.e., sport hunting) under a specific set of criteria was also provided. Section 101(a)(3) of the MMPA states: "The Secretary, on the basis of the best scientific evidence available and in consultation with the Marine Mammal Commission, is authorized and directed....to determine when, to what extent, if at all, and by what means it is compatible with this Act to waive the requirements of this section so as to allow taking or import of any marine mammal...". Section 101 of the MMPA also states that the Secretary must assure that the taking of such marine mammals is in accord with sound principles of resource protection and conservation as provided in the purposes and policies of the MMPA. The waiver could be implemented under either federal management, or under state management if the State of Alaska were to request and receive management authority.

Under the second scenario, Russia could sanction hunting while the U.S. maintains the status quo. This would increase the number of polar bears taken from the shared Alaska-Chukotka population. The effects of legalized hunting on the population and/or habitat are largely unknown. One possible

consequence may be a reduction in numbers of polar bears available for Alaska Native subsistence hunters. Another consequence could be the depletion of the population.

Under the third scenario, Alaska Natives could enter directly into a cooperative agreement with Chukotka Natives to conserve and manage the Alaska-Chukotka stock of polar bears, without direct participation or approval of their respective governments. This agreement would not receive formal approval from the federal governments although in the U.S. a working arrangement between the Native organization and federal government would be possible. In Alaska, compliance with the terms of a bilateral Native agreement, including harvest limits, would not be enforceable by the Service except possibly under certain circumstances. Joint federal oversight of the shared polar bear stock would not be initiated, although the Service and Russian government would provide technical assistance and advice upon request, and continue to monitor population status. The Native-to-Native agreement may be self implementing or may be implemented by tribal ordinances or regulations, provided that the terms of the agreement are equal to or more restrictive than the MMPA. Other legal support would not be available from the governments of either country. Enforcement authorities to implement the agreement could not be delegated to the Native organizations in the U.S. without enabling legislation, amendments to the MMPA, or other appropriate action.

Formation of a committee, comprised of Native representatives from both countries, could determine how to implement a harvest quota system and how to deal with population threats in Russia associated with illegal hunting, lack of enforcement, and the potential for future growth in other consumptive uses.

Habitat conservation would continue to be provided through the existing system of reserves in Russia and parks and refuges in Alaska, and in all other aspects the status quo would be maintained. Joint international research and monitoring programs would continue to be conducted by the governments of each country with varying degrees of participation from and coordination with the Native community.

Compliance with the provisions of the 1973 Agreement would be enhanced if the Native-to-Native agreement included provisions for the protection of females, cubs, and denning bears, the prohibition of the use of aircraft and large motorized vessels for hunting, and harvest guidelines and quotas. However, while provisions more restrictive than the MMPA are encouraged through the user agreement, formal enforcement probably would not be possible. The level of improved compliance with the provisions of the 1973 Agreement would depend upon the degree of local adherence.

Sport hunting under a Native-to-Native agreement could not occur legally in the U.S. since sport hunting of polar bears is not authorized by the Service regulations. A waiver or amendment to the MMPA would be necessary to authorize sport hunting. Any future reconsideration of this issue in the U.S. would require a separate regulatory action consistent with NEPA. In Russia, any type of polar bear sport hunting would require a federal government action to declassify the current protective status.

Section IV.D., Matrix Analysis, further provides a tabular comparison of the strengths and deficiencies of the various alternatives and sub-alternative scenarios.

B. ALTERNATIVE 2 - GOVERNMENT-TO-NATIVE AGREEMENTS WITHIN EACH COUNTRY

Under Alternative 2, the federal government and Natives of each country could enter into unilateral cooperative agreements with one another. Cooperative agreements between the U.S. government (Service) and Alaska Natives would address conservation and management of the Alaska-Chukotka stock of polar bears; however, unified bilateral conservation and management strategies would not be initiated between the federal governments or the Natives of the two countries, under this alternative.

Subsistence hunting in Alaska, as provided under Section 101(b) of the MMPA, would continue unrestricted provided the population remains non-depleted. Binding harvest limits and quotas would not be instituted without enabling authority, such as amending the MMPA or seeking additional authority through stand-alone legislation. Continuation of unquantified illegal hunting of polar bears in Russia, lack of enforcement, and potential for future demand for other consumptive uses could have marked repercussions for overall population welfare. Future management initiatives include the likely start of a subsistence harvest program in Russia.

The lack of an official agreement between the U.S. and Russia would limit the ability of each country to establish, manage, and enforce harvest limits and allocate quotas equitably. It is unlikely that enforcement authority could be delegated by the federal government to the indigenous Native people in either country on the basis of existing laws, and enforcement of binding quotas in the U.S. would not be possible unless, as previously mentioned, new enabling authorities were obtained.

Section 119 of the MMPA could, however, provide for development of cooperative agreements for comanagement of the subsistence use of marine mammals between the government and Native organizations which would include self-regulation of harvest guidelines. However in the case of bowhead whales, under the NOAA/AEWC cooperative agreement, some enforcement responsibility has been delegated to the AEWC and civil actions brought by the government on behalf of the AEWC have been upheld in the courts. The authority for NOAA/AEWC enforcement actions comes from the Whaling Convention. A comparable authority is not available for polar bears under this alternative.

Some form of habitat conservation would continue to be provided through the existing legal authorities and the system of nature reserves in Russia and national parks and wildlife refuges in Alaska. Efforts in the U.S. to conserve existing habitat and restore degraded habitat would continue within the existing legal authority provided by the MMPA or other laws. Management in Alaska could emphasize comanagement and initiatives to identify and conserve important habitat. Joint international habitat conservation initiatives would be unlikely under this alternative. Establishment of a government-to-Native agreement provides additional opportunity to formalize habitat protection and restoration.

Joint international research and monitoring programs for the study and conservation of the Alaska-Chukotka population of polar bears would continue under Area V of the U.S./Russia Environmental Agreement and the AEPS. Other basic research in Russia, including annual den surveys and behavioral studies of denning bears, have not been conducted in recent years due to funding limitations, and likely would not be renewed until economic conditions improve.

Compliance with the 1973 Agreement would be enhanced in the U.S. if an agreement with Native users could be established which provides for harvest guidelines; protects females, cubs and denning bears; prohibits the use of aircraft and large motorized vessels; and identifies direct habitat conservation measures.

Sport hunting is not contemplated in a government-to-Native agreement in the U.S.. However, Section 101 (a)(3) of the MMPA includes procedures for granting waivers to the take moratorium to allow some forms of take, including sport hunting. New regulations, including a comprehensive public review process, would be required to ensure the activity would be consistent with sound conservation principles.

The possibility that sport hunting could occur in Russia under this alternative is difficult to forecast. The likelihood of implementing government-to-Native agreements, or of the possibility that sport hunting would be a management component under such agreements, is unknown.

C. ALTERNATIVE 3 - GOVERNMENT-TO-GOVERNMENT AGREEMENT WITH A NATIVE-TO-NATIVE AGREEMENT (PREFERRED ALTERNATIVE)

Alternative 3 would entail development of a government-to-government agreement and a companion Native-to-Native agreement to optimize conservation of the Alaska-Chukotka polar bear population.

The government-to-government agreement would provide the basis for an international conservation and management program and a companion Native-to-Native implementation agreement for joint subsistence harvest management. It also provides the legal foundation for these management regimes. Government endorsement of the Native-to-Native agreement would allow for meaningful involvement, support, and implementation at the user level. The government-to-government agreement would formalize this relationship and provide legal and operational standing for the Alaska Nanuuq Commission and the Chukotka Native Marine Mammal Commission. Regarding subsistence harvest, the government-to-government agreement would authorize implementation of terms of the agreement through the Native-to-Native agreement as well as provide for accountability for actions under this arrangement. Technical assistance and cooperator status in various projects by the federal government agencies would be one form of support to the Native parties. Future financial support through conventional agency budget appropriation processes is uncertain, although Section 119 of the MMPA has been utilized successfully to fund co-management projects in the U.S.. Either conventional

Department of the Interior budget processes or separate Congressional action, such as ratifying legislation to enable this agreement, could authorize appropriation of funds to carry out the terms of the agreement. Either process may also offer opportunities for fiscal support to the Alaska Nanuuq Commission as well as government organization.

The establishment of a joint international commission would provide for a means to coordinate and consult as necessary to carry out the terms of the agreement. The joint commission would serve as the primary decision making body responsible for the effective management of the shared polar bear population. All decisions by the joint commission to restrict the take of polar bears would be made by consensus. Native representatives from Russia and the U.S. would have a vote on such decisions. Management would be coordinated to remedy the deficiencies of current unilateral efforts, and expand opportunities to obtain comprehensive and accurate information on the overall population size and status.

In Alaska, implementing a harvest limit, allocation, and quota system based on harvest guidelines would result in proactive management and avoid the reactionary management which now occurs when populations fall below the optimum sustainable population level. Managers would have the flexibility to recommend harvest level adjustments to the joint commission. The MMPA depletion standard, which limits the ability to regulate subsistence take unless a population is depleted, would no longer be the only management tool for regulating harvest. Alternative 3 would also provide the means to obtain accurate harvest data, legislation to enable enforcement all provisions of the agreement, and to reduce illegal hunting, contingent upon sufficient funding.

Enforcement of harvest quotas or enforcement of the existing ban on take in Russia would presumably curb illegal take. Penalties and fines for illegal take in deference to the ban or for takes in excess of the prescribed quotas would serve as a deterrent for these actions. Penalties and the high risk of detection must substantially out-weigh the benefits to a violator in order to be effective. Although a total ban may be simpler to enforce, any harvest program would include provisions requiring the marking and tagging of hides and skulls of polar bears, thus allowing for a determination on whether the take itself was legal. The issue of illegal trade remains a factor under either situation. A demand for polar bear hides apparently exists and would likely continue. The level of enforcement and severity of penalties would determine the effectiveness of enforcement against illegal trade. Also, since the hunters themselves would be the beneficiaries of a harvest program, there would be substantial incentive for compliance. Compliance with terms, including a potential temporary ban upon harvest, would demonstrate capability to implement a future harvest program. Absence of potential or real benefits of harvest program compliance could conversely result in lack of endorsement and compliance to harvest restrictions.

However, without adequate enforcement, a possible impact of implementing this agreement could be to increase the total take (legal and illegal). Trade or commerce in polar bear parts or derivatives must be closely monitored and regulated to avoid such a situation. Current provisions regulating international trade in polar bear parts from Russia or the U.S. appear adequate. However, trade of polar bear parts

within Russia may require additional monitoring. A requirement to assess the level of compliance with harvest monitoring provisions and the relative effectiveness of enforcement provisions would be included as components of any management plan in either nation, to ensure that the population is maintained at sustainable levels.

The ratification of the proposed agreement would justify the appropriation of funds required for implementation. Without federal participation by the U.S., it is unlikely that the Russian Federation would implement a polar bear management program in cooperation with the Chukotka Native Marine Mammal Commission.

Habitat conservation would continue to be provided through the existing system of reserves in Russia and parks and refuges in Alaska. The bilateral agreement would also provide additional incentive, noting that each party has a vested interest in the actions of the other, to conserve important feeding and denning areas in both countries. Greater emphasis upon international coordination of habitat measures for this population would result in an increase in tangible habitat conservation actions over time. Thus, each country would benefit from the habitat conservation practices of the other.

Joint international research and monitoring programs for the study and conservation of the Alaska-Chukotka population of polar bears are an objective of the proposed action and would be enhanced when sanctioned and conducted between the governments and Natives of Russia and the U.S.. Priorities would include implementing a program to monitor take, development of techniques to determine population size and trend, conducting joint den surveys, monitoring environmental quality, conservation of polar bear habitat, and development of conservation education materials.

One proposal for determining population size involves conducting a joint Russia-U.S. aerial census of polar bears along the ice edge in the Chukchi Sea using a helicopter supported by a ship with ice-breaking capabilities. In Russia, joint polar bear behavior studies and den counts, as a means to monitor population trend, could be initiated on Wrangel and Herald islands and the northern Chukotka coastal areas, dependent on availability of funds. Development of other comprehensive joint international research proposals, coordinated with Native constituents through the joint commission, would be likely.

Adoption of Alternative 3 would not preclude sport hunting. However, a bilateral agreement which provides for regulated Native harvest is preferred and selected. Sport hunting is not an alternative use considered within the agreement, nor is it expressly prohibited. Thus future options would remain available, although any reconsideration of sport hunting by either party would require a separate authorizing action, such as waiving the moratorium of take under the MMPA which would be subject to NEPA requirements in the U.S. If sport hunting were considered an appropriate and compatible use under the bilateral agreement, the take provisions would apply only to the shared Alaska-Chukotka stock of polar bears. Sport hunting could still occur in Alaska in the Beaufort Sea under a waiver of the MMPA.

D. MATRIX ANALYSIS

Table 2. Matrix Analysis of Alternatives for the Bilateral Agreement on the Conservation of Polar Bears

	Alternative 1: No Action (3 scenarios) a) no action by US or Russia b) no action by US; action by Russia c) Native-to-Native agreement	Alternative 2: Government-to-Native agreements	Alternative 3: Government- to-Government and Native- to-Native agreements
International Conservation and Management	a) low level of national and international coordination b) low level of international coordination c) high level of international coordination among primary users, no formal federal role	low level of international coordination	high level of national and international coordination
Federal/Native Co-management	a) Yes, possible in Alaska b) Yes, possible in Russia c) None	Yes, although not coordinated	Yes, extensive and international in scope
Sustainable Harvest Quota System	a) none developed b) none developed c) unlikely in both countries without federal support	possible but unlikely in both countries	yes, central to the alternative
Legally binding Quotas	a) non-binding b) binding or non-binding c) non-binding	non-binding, w/o MMPA amendment	binding
Joint Management entity	a) none b) none c) likely; establishment of bilateral Native committee or advisory group without government representation (except as technical advisors)	no inter-jurisdiction joint management, unilateral committee between government and Natives in each country respectively	yes; establishment of bilateral joint commission and scientific advisory group
Increased Habitat Conservation	a) limited b) unknown c) limited	possible, de facto	optimum, with federal and local support

Research and Monitoring	a) minimal international coordination b) minimal international coordination c) partial - most research and monitoring would continue to be conducted by federal governments	In U.S. primarily domestic programs to determine population estimates, identify habitat and monitor and verify take. Russian involvement probably minimal.	U.S.-Russia: international efforts to determine population size and trend, identify and conserve habitat, monitor and verify take
Enforcement	a) governments retain primary role b) governments retain primary role c) governments retain enforcement authority; Native-to-Native agreement is self implementing at local level but may have no legal standing with federal governments	government retains primary role in U.S.; unable to delegate enforcement to the Alaska Nanuuq Commission.	governments retain primary role with delegation of enforcement to Alaska Nanuuq Commission and Chukotka Native Marine Mammal Commission. Increased ability to address illegal take in Russia
Compliance 1973 Agreement	a) partial b) partial c) enhanced in US; unknown in Russia	enhanced	fulfilled
Sport hunting	a) possible with MMPA waiver in the US; unknown potential in Russia b) possible with MMPA waiver in the US; unknown potential in Russia c) unlikely	possible MMPA waiver in the US; unknown potential in Russia	unlikely

E. SELECTION OF THE PREFERRED ALTERNATIVE

The Service has selected Alternative 3 as its preferred alternative for the development of a United States-Russian Bilateral Agreement for the Conservation of Polar Bears in the Chukchi/Bering seas on the basis that it would provide the most comprehensive conservation program and that it provides a balanced approach to meeting the needs and concern of the public. The Service believes that by unifying management regimes, regulating take, enhancing protection for polar bears and their habitat, and providing for non-consumptive uses as well as consumptive uses, these actions will not only ensure protection of the Alaska-Chukotka polar bear population but will also meet the needs of the primary users and the public. The agreement would provide guidance for Russian and American governments and Native entities to manage the shared population stock and it would support Russian efforts to curb threats to polar bears associated with illegal unquantified hunting and lack of enforcement. A government-to-government bilateral agreement would also ensure closer coordination and involvement in management decisions by the primary users, namely the Native peoples of Alaska and Chukotka.

V. CONSULTATION AND COORDINATION

The Fish and Wildlife Service has coordinated with numerous organizations on the issues pertaining to a possible future bilateral arrangement with Russia, consistent with the 1973 Agreement. The Fish and Wildlife Service and the Russian Ministry of Environment and Natural Resources have consulted, and three protocols summarizing these consultations were prepared (Appendices C-E). Alaska and Chukotka Natives also consulted among themselves regarding the principles for an implementation agreement, and a protocol summarizing these consultations was prepared (Appendix F). The Native protocol was reviewed on April 26, 1996, and suggested modifications were taken into consideration by the Alaska Nanuuq Commission and the Chukotka Native Marine Mammal Commission. Representatives from the Service, U.S. Department of State, U.S. Department of the Interior, Marine Mammal Commission, the Alaska Department of Fish and Game, North Slope Borough, Alaska Nanuuq Commission, and the Audubon Society have met several times to discuss the Principles for Conservation and to review and revise working drafts of the Principles for Conservation for the Alaska-Chukotka polar bear population.

With the completion of the public review and comment process and finalization of this Environmental Assessment (EA), the Fish and Wildlife Service has selected the preferred alternative (Alternative 3) and will decide whether to submit a formal application to the U.S. Department of State for authority to open negotiations with the Russian Federation. If that step is taken, the negotiating position of the U.S. will be determined through the State Department's Circular 175 process.

VI. SUMMARY OF PUBLIC COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT AND RESPONSES

The Fish and Wildlife Service, in response to comments and testimony received from the public has revised the draft EA and now issues the Final EA for the proposed action. The comment period on the draft EA was open for 60 days from July 19, 1996, to September 17, 1996. During this period the Service received written comments from seven organizations, and one individual. In addition, public hearings were conducted in Anchorage, Alaska on August 14, 1996, and in Washington, D.C., on August 21, 1996. Transcripts of the proceedings from the public hearings are on file at the Fish and Wildlife Service Alaska Regional Office. The Service also conducted community meetings in Wales, Shishmaref, Gambell, Savoonga, Barrow, and Wainwright during the period August 26 to September 6. Additionally the Service received comments from three governmental organizations at the conclusion of the comment period. Copies of all written comments are on file at the U.S. Fish and Wildlife Service Regional Office.

Non-governmental organizations commenting included: the National Audubon Society, Environmental Investigation Agency, Humane Society of the U.S., Polar Bears Alive, Center for International Environmental Law, The Alaska Wildlife Alliance, and BP Exploration. Governmental organizations commenting included: the State of Alaska, U.S. Department of State, and the U.S. Marine Mammal Commission.

Overall many of the public comments endorsed the need for a bilateral treaty between the U.S. and Russia. There were no comments supporting Alternative 1, the status quo, and several which opposed its continuation. One commentator supported Alternative 2 with additional measures. Generally public support for a coordinated U.S./Russia bilateral agreement was contingent upon the Service, and ultimately the agreement, addressing a number of issues. The Service has evaluated these comments and provides a description of them as issues with a corresponding response in the following section. Comments have been discussed within one of the following categories: general comments pertaining to the EA; comments pertaining to the MMPA; comments regarding implementation of a bilateral agreement or implementation of sub-alternatives; comments pertaining to habitat protection; the 1973 international Agreement on the Conservation of Polar Bears; and a category for other issues or editorial comments which did not logically fit into the previous categories. In many instances public comments have resulted in modification of the text of the Final EA in order to provide clarity and have been noted as such.

GENERAL COMMENTS ON THE OVERALL ENVIRONMENTAL ASSESSMENT

Issue: One commentator believed that with regard to NEPA the EA should provide greater discussion of sub-alternatives for Alternatives 2 and 3. Under Alternative 2, for example, one option would be for the United States to conclude a government-to-Native agreement with Alaska Natives regardless of whether Russia does so with Russian Natives. Alternative 3 should provide the range of provisions that

might be included in the contemplated agreements. For example, the discussion of the joint commission should include representation of non-governmental organizations. The EA nevertheless should provide a more thorough discussion of the possible elements that might be included, without regard to reaction of constituents.

Response: The EA presents a balanced description of potential alternatives which may reasonably be expected to occur. Additional discussion of topics has been included in the Final EA for Alternatives 2 and 3 as appropriate. These include a discussion of a greater range of potential mechanisms (may be considered as sub-alternatives) to implement various alternatives. Discussion of a government-to-Native agreement with Alaska Natives has also been added to Alternative 2 as well as seeking additional authority to establish binding quotas in the U.S. and expanding participation in the joint commission. The Service continues to believe that the EA provides a thorough discussion of the need for the proposed action, and the environmental impacts of the proposed action, and alternatives which is sufficient to enable the Service to make a finding that the action would have no significant environmental impact and that preparation of an Environmental Impact Statement is not required. The Service believes that a decision to advance the bilateral conservation agreement with Russia for the conservation of the Alaska-Chukotka population would be sound.

Issue: One commentator emphasized that the Service should not have made irreversible or irrevocable commitments through the protocols found within the appendices for the EA, or any such commitments regarding actual text for an agreement.

Response: No commitments have been made by either party. Both the U.S. and Russia are aware that specific clearances, by the Department of State in the case of the U.S., are necessary prior to formal negotiations for a bilateral agreement.

Issue: The draft EA does not provide adequate treatment of the intrinsic value of polar bears to the public.

Response: A primary objective of the proposed action is to maintain the polar bear population at a sustainable level over time. This objective is complementary to maintaining the intrinsic values of polar bears to the public.

Issue: The EA is deficient in recognizing/analyzing the effect of a Native-to-Native Agreement in Alternative 3 on the Russian decision to open hunting.

Response: The Service acknowledges that the agreement may in part enable a legally managed harvest to occur in the Chukotka region and also believes that the current situation in Russia is untenable. Further, the Service acknowledges that it is perfectly within the right of the government of the Russian Federation to institute a harvest. The Service believes that safeguards should be incorporated into the language of any agreement or treaty which requires the verification of either country's management and

enforcement program as a pre-requisite to changing the management status. In the case of Russia, enforcing the existing ban on take through enforcement activities could provide this initial assurance.

Issue: Alternative 3 should not be selected. Instead a mixture of Alternatives 2 and 3 should be developed which does not include development of an intra-jurisdiction agreement between Natives of Alaska and Chukotka (Alternative 3). Instead modify Alternative 2 to incorporate a government to Native Memorandum of Understanding (MOU). Alternative 2 should mention that a government-to-Native agreement in Russia could eliminate poaching. Then the only harvest quotas that would be necessary would be in the U.S.. Stand-alone legislation or amending the MMPA could enable development of binding harvest limits in Alaska similar to Alternative 3.

Response: The Service is committed to enhancing the level of meaningful participation of Native users in implementing any agreement or treaty. This includes sanctioning implementation within and between countries through the Native to Native agreement. It is appropriate, as users of this resource, that these efforts be coordinated between countries. An example of a similar arrangement is the NSB/IGC polar bear agreement for the Southern Beaufort Sea. The Chukotka Native to Alaska Native agreement would use the successful NSB/IGC agreement as a model for their agreement. The suggestion to include a MOU between the government and Native user group within each country is appropriate, and the Service with the Alaska Nanuuq Commission will develop a MOU which specifies the respective roles and responsibilities for co-management under terms of any agreement or treaty. Seeking stand-alone legislation or amending the MMPA is discussed as an option, although without widespread support the possibility of achieving this is remote.

We agree that eliminating poaching in Russia could be the first step toward sanctioning a management program. However, based upon discussions with Russian representatives it may be incorrect to assume that the ban on hunting would continue indefinitely. The stated Russian intent appears to be to sanction a regulated and managed harvest once an active and responsible management program would be in place.

Issue: Concerns were expressed that economic conditions in Russia which have contributed to the problem of illegal and unquantified harvest of polar bears would persist in the future. These factors not only contribute to illegal take but also to the inability of the government to enforce actions against illegal take as well as conduct other management and research activities. Providing adequate funding should be a requisite to the agreement. How a bilateral agreement would be expected to alleviate the economic difficulties should be discussed along with possible sources of funding for carrying out the provisions of the proposed bilateral agreement. The agreement should be negotiated considering that taking should be permitted only if a sufficiently funded monitoring program is in place or provisions should be included for suspension of hunting in the absence of funding or if funding becomes unavailable in the future. The Service was urged to explore the possibility of seeking partnerships to create trust funds, joint ventures, or endowments to support mutually beneficial conservation work (e.g., the Kodiak Island brown bear trust fund).

Response: The Service concurs that funding is essential to carry out the bilateral agreement. Each Party will be responsible for implementing terms of the agreement within their jurisdictions. The Service expects to seek funds to implement the agreement in the U.S., either during the process of achieving Senate consent to ratify the treaty, or through conventional Department of the Interior budget appropriation processes. In either instance funds for these activities would require Congressional action through the appropriations process. How funding would be obtained by Russia is not certain and the concern that existing economic conditions would persist in the future is legitimate. A bilateral agreement would provide an incentive for Russia or the U.S. to develop, fund and implement a bonafide management and enforcement program. The agreement would include a condition requiring the verification and approval by the joint commission of each country's management program prior to changing the status of management in the respective country. Providing technical or financial support to Russia or various partners to implement the agreement would be beneficial. The Service is interested in providing technical assistance and advice to Russia and, in general, augmenting funding for polar bear conservation through supporting private measures and initiatives. An additional future funding source may be available through 1994 amendments to the MMPA which enable importation of sport taken polar bear trophies in Canada by U.S. hunters. Final polar bear trophy importation regulations have been promulgated and require applicants to pay a \$1,000 import permit issuance fee with funds dedicated to polar bear conservation programs for the Alaska-Chukotka population.

Issue : The bilateral agreement's determination of a harvest limit should rely upon sound scientific information. Currently the knowledge of polar bear population size or dynamics is inadequate to establish sustainable harvest limits. Additional research should be conducted prior to development of a shared harvest system.

Response: The Service recognizes the lack of quantitative information on population size and status, although various scientists within and outside of the Service believe this population is currently healthy. The proposed bilateral agreement would support additional studies and research on population size and trend which may remedy this situation in the future. In order to evaluate scientific techniques which may be useful in enumerating population size or status, the Service, in cooperation with the Biological Resources Division of the U.S. Geological Survey (USGS), formerly the National Biological Service, has conducted a test to determine the feasibility of using aerial surveys and a variety of survey methods in order to delineate population size. A survey sampling technique applied to the Chukchi Sea during minimum ice cover has been developed and as reported by McDonald et al. would provide an estimate of total polar bear abundance that is within 16% of "true" value with 95% confidence limits. The limitation to date in applying this technique has been lack of funding. In order to evaluate trends in the population, the Service with USGS and Russian colleagues are also assessing the utility of aerial den surveys of Wrangel and Herald islands and the coastal strip of the Chukotka Peninsula. A workshop to explore this technique was conducted during December 1996. Recommendations of the workshop would be used to guide future cooperative joint US-Russia den surveys.

Regarding future harvest levels, the Service in retrospect recognizes that while harvest rates in the U.S. which occurred in the 1960s and early 1970s may have been excessive, harvest rates since passage of the MMPA have been approximately 50% of the previous era. These more recent harvest rates are believed to have allowed the population to recover and expand its range and which now includes an age structure representative of a population not being selectively exploited for old age animals. The increased number of polar bears in the area and the population are corroborated by local knowledge, anecdotal information, and common scientific opinion. As stated in the draft and Final EA's and also in the Stock Assessment: Chukchi/Bering Stock (Appendix G) the population is determined to be within optimum sustainable levels. The Service believes that allowing the existing situation of illegal unquantified hunting in Russia and the unregulated legal hunting in Alaska to continue would be a biological error. Instead, as recommended by the scientific advisory group, the Service supports a conservative approach; the harvests limit should be set at levels believed to be sustainable and allow for population growth.

Issue: The EA should present information on the effects of over-harvesting in combination with the effects various human activities.

Response: Precise biological information on cause and effect relationships are difficult to assess. However, population trend may be monitored successfully over time and this could provide indirect insights to cumulative effects. These effects may include the subtle and normally undetectable effects of minor habitat alteration or other forms of perturbation which when considered independently probably could not be detected nor directly measured. The Service recognized that although non-harvest related subtle impacts likely could not be quantified or evaluated, their net effect could be evident in future years.

COMMENTS RELATED TO THE MMPA AND ITS RELATIONSHIP TO THE PROPOSED ACTION (consistency determination, sustainable populations and harvest, optimum sustainable populations, viewing/photography)

Issue: The EA should note the need for consistency with the purposes and policies of the MMPA as well as the referenced International Agreement on the Conservation of Polar Bears. In this regard, the Service makes reference several times to maintaining the polar bear stock at "sustainable levels" or to establishing harvest limits below the "sustainable yield." Such references should clearly indicate that harvest levels are to be set so as to ensure that the stock remains within or increases towards its optimum sustainable population range. "Optimum" might usefully be inserted before the term "sustainable" throughout the text. Also, it would be useful if the Service expanded the discussion of the possible allocation schemes envisioned. For example, the Service might consider a harvest regime based on a calculation similar to that for establishing a stock's potential biological removal (PBR) level, which uses a minimum population estimate that provides reasonable assurance that the stock size is equal to or greater than the estimate and an appropriate recovery factor.

Response: The Service believes that almost all of the provisions of the MMPA would remain applicable to the Alaska-Chukotka polar bear population following ratification of any agreement or treaty. Other terms may be supplanted by the treaty and enabling legislation. The EA has been modified to indicate that the proposed bilateral agreement would be consistent with the principles and concepts of the MMPA. Although OSP would not be the biological standard used in managing populations or the harvest, the principles of OSP along with other wildlife management techniques would continue to be considered by the scientific advisory group in determining sustainable populations and harvest limits. Maintaining the population of polar bears in the Chukchi/Bering seas at sustainable levels is basic to the proposed action. Ensuring the maintenance of sustainable populations would be required by the scientific advisory group when making decisions and recommendations to the joint commission regarding sustainable yield. The scientific advisory group would consider the current status of the population relative to potential population size. The principal standard would be the determination that all combined removals would not exceed net recruitment into the population.

The two most critical parameters for estimating sustainable harvest are population numbers and the adult female survival rate. A basic formula for describing sustainable harvest rates (H) is as follows:

$$H = N (0.015/P_f)$$

where N is the total number of individuals in the population and P_f is the proportion of females in the harvest measured directly through accurate harvest returns.

Principles of OSP as described within the MMPA (carrying capacity of the ecosystem and maximum net productivity levels) as well as the technique for PBRs described in the MMPA Section 117 stock assessments would continue to be considered in making future management decisions for activities. Techniques such as the PBR level approach, while appropriate for assessments of impacts posed by incidental take, particularly for endangered marine mammal species, would not be appropriate for managing the direct subsistence harvest of healthy and sustainable non-endangered marine mammal populations such as polar bear populations. Other information relative to population vital rates and future population trend indices, such as denning indices or other population information relative to size, status, and welfare, will also be evaluated to assure population sustainability. If information indicates that the population may not be sustainable, effective harvest restrictions would be recommended by the scientific advisory group and instituted through the joint commission.

Issue: The meaning of the term "sustainable basis," is unclear. To avoid confusion this sentence should be revised to read something like -- "The hunting of polar bears by Alaska Natives for subsistence and handicrafts purposes is permissible under the MMPA (OSP standard applies) and may be regulated by the Fish and Wildlife Service only if it is determined that the population is depleted." Also include, "...and compliance with regulations necessary to ensure that the population remains at or increases toward its optimum sustainable level."

Response: EA was revised to indicate that hunting polar bears by Alaska Natives is permissible under terms of the MMPA and that the proposed action would ensure that populations and harvest remain sustainable. Regarding implication that the OSP standard of the MMPA be utilized within this agreement, the Service will insist that any take limits established under the bilateral agreement must produce a sustainable population level. The preferred method of setting take limits would set this level at a point which does not exceed the net recruitment for the population. While not addressing the basic management standard of the MMPA (i.e., the maintenance of marine mammal stocks at their OSP), the new standard would authorize harvest quotas and annual adjustments which is considered more flexible in meeting both the population needs and uses for subsistence. Existing authority under Sections 101(b) and 103 of the MMPA to regulate subsistence take by Alaska Natives would be retained as a fail-safe mechanism if the Alaska-Chukotka population became “depleted.” Such action would have to be preceded by a formal Secretarial finding that the population had fallen below its OSP level, and further restrictions beyond those recommended by the joint commission, if necessary, would have to be adopted through the formal rulemaking provisions of Section 103 of the MMPA. Assuming successful conclusion of an effective conservation agreement with Russia, the Service does not envision the future need to use these procedures.

COMMENTS ON FACTORS AFFECTING IMPLEMENTATION OF A BILATERAL AGREEMENT (federal authority, roles and responsibilities of government and native agreements, roles and responsibilities of the joint commission and scientific advisory committee, harvest conditions and other limitations of use, enforcement, sport hunting)

Issue: The Final EA and the future bilateral agreement should clearly state that the respective governments retain the ultimate authority for management, enforcement and implementation of conservation programs resulting from the agreement. Further, it should specify which responsibilities will be shared with the Native organizations of both countries. Certain provisions related to enforcement should be retained by the governments in their entirety.

Response: The Service agrees that the respective governments are ultimately responsible for the conservation of this trust resource and explicitly indicated such in the draft EA. There is no intention to abrogate this responsibility through the proposed action. The ambiguity arises when the EA indicates that certain management and enforcement responsibilities will be shared or delegated to the respective Native organizations. It remains the Service’s intent to provide a meaningful role to the Native entities in implementing this conservation agreement and to seek funding to realize this goal as well as to provide technical assistance and support in meeting the conservation objectives. This should not be construed to absolve the Service of its basic mandated conservation responsibilities. Just the opposite is intended through a co-management partnership between the Service and the Alaska Nanuuq Commission. The Service would develop a MOU with the Alaska Nanuuq Commission which specifies the respective roles and responsibilities of the parties. Certain functions which are inherently federal by their nature will continue to remain solely within the Service’s scope of responsibility,

including certain aspects of enforcement. The EA has been modified to eliminate confusion on these points.

Issue: The Russian ban on hunting should remain in effect until management measures sufficient to ensure that the population remains at or above its maximum net productivity level are in place.

Response: The Service acknowledges that a first step toward demonstrating a viable management program could be to enforce the Russian ban on take, and has indicated such in the EA. Regarding the measures to ensure that the population remains at or above its maximum net productivity level the stock assessments indicate that the population is “within optimum sustainable populations levels” and therefore it is currently above its maximum net productivity level (Appendix G). Future management actions are designed to ensure that the population remains at sustainable levels as previously discussed in this section.

Issue: The draft EA states that binding harvest limits and quotas would not be instituted under Alternative 2. This suggests that the Service does not believe that the terms of a cooperative management agreement entered into under Section 119 of the MMPA would be binding on the Native parties. If the government-to-Native agreement included provisions limiting the harvest, why would such quotas not be binding? It would be more precise to indicate that binding harvest limits and quotas could, but would not necessarily, be instituted under Alternative 2.

Response: The Service believes that binding quotas could not be developed without additional authority. However, development of non-binding or self regulation quotas have merit as discussed previously. Clarifying language has been included in the text.

Issue: The Service should look to the cooperative agreement between the NOAA and the AEWC agreement as an example of mechanisms for enforcement.

Response: The Service and legal counsel have examined the relationship between the NOAA and the AEWC and have included a result of that analysis, potential management implications, and options in the Final EA.

Issue: The discussion of the delegation of enforcement responsibilities is confusing. Their reference casts doubt on the Service's ability to delegate successfully any enforcement authority to a Native entity under existing law. Other information indicates that the NOAA has successfully delegated identical enforcement authority to the AEWC under a cooperative agreement.

Response: The EA has been modified to indicate that delegation of enforcement authority for binding quotas, in the absence of this agreement, would be problematic in the U.S. for lack of an enabling authority. Non-binding or self regulation harvest guidelines however, could be developed.

Issue: One commentor indicated that in Alternative 1 the word "non-binding" should be replaced with the word "self-regulated" regarding harvest guidelines developed between the government and Native organizations. The commentor indicated that although any such quota (guideline) would not be enforceable as a violation of federal or international law, it could still be binding between the parties as a matter of contract law.

Response: The text has been modified to indicate that a non-binding or self regulating quota system could be developed. The Service maintains that such a quota would not be enforceable under federal or international law and therefore, as a general matter, not enforceable through prosecutions in federal court.

Issue: What has been the level of compliance with the Marking, Tagging, and Reporting harvest monitoring program in Alaska in the past, and are there mechanisms to improve these programs.

Response: The Service believes that this program is currently operating effectively based upon the network of village tagger/assistants and frequent communications with the hunters and taggers. The level of communication, maintenance, and village presence in a large part determines the success of this program and any additional effort in these areas would be useful.

Issue: Under Alternative 2, subsistence hunting would continue unrestricted provided the population is not found to be depleted. This is not necessarily the case. A cooperative agreement between the Service and Native groups could establish enforceable limits on take. This sentence should be revised to reflect that possibility. Similarly, binding harvest limits/quotas could be instituted under such an agreement. It is unclear why, under this alternative, the Russian ban on hunting is unlikely to be lifted.

Response: The text has been modified to indicate that non-binding harvest guidelines could be developed and instituted through self-regulation. Any contractual commitment by the parties regarding harvest quotas would lack explicit federal authority and would be unenforceable based on provisions of Section 101(b) of the MMPA. In Russia, the federal ban on hunting would probably continue due to the lack of international support or standing offered through a formally recognized unified management regime. Existing national economic and political issues would continue to take precedence due to their urgency while conservation initiatives would be relegated to a lower priority. If the ban were lifted however, and Russia began to institute a subsistence harvest, the cumulative effect on the Alaska-Chukotka population would be measurably adverse in the absence of a coordinated management agreement.

Issue: The bilateral agreement places too much emphasis on a coordinated harvest arrangement and should place a greater emphasis on the intrinsic values polar bear provide to the general public and their ecological role.

Response: The draft EA intentionally addresses the harvest aspects of the agreement in greater detail than the remainder of conservation topics. As the draft EA states, “With the exception of either a catastrophic habitat perturbation, or the cumulative effects realized through a series of small perturbations, no other human activity has the potential to impact polar bear populations to the degree as does harvest removal. In Alaska, the hunting of polar bears on a sustainable basis for subsistence, making clothing, or creating handicrafts on a small scale, is recognized as a valid use. It is for these reasons that the proposed action and their treatment in the Final EA places an emphasis on actions that would result in coordination, monitoring, reporting, and compliance with regulations necessary to insure a (sustainable population and correspondingly) sustainable harvest.”

The Service believes that this emphasis is warranted, but it is certainly not intended to preclude other forms of conservation such as habitat protection, research, mutual communication, public outreach and education, and coordination. Through these steps the intrinsic value of polar bears to the public and their role in the ecosystem will be maintained. The Service will continue to seek to provide for the long term welfare of the population and its habitat and consult with others for further suggestions for meeting this goal.

Issue: Discussion of Alternative 3 should be expanded to provide a clearer picture of the respective roles of, and the relationship between, the proposed government-to-government and Native-to-Native agreements. For example the Service indicates that the Native-to-Native agreement "would serve as a basis for management, research, enforcement, and monitoring programs related to the subsistence harvest of polar bears." Although it is important to have the Native groups involved in these aspects of a conservation program, it is equally important that these aspects be made binding on the federal parties through the government-to-government agreement.

Response: Additional information regarding the roles and relationships between the government-to-government agreement and the Native-to-Native agreement have been included. As indicated in the EA, the Native-to-Native agreement would elaborate on the details of subsistence harvest allocation between the two countries, and would serve as a basis for management, research, enforcement, and monitoring programs related to the subsistence harvest of polar bears. The Native-to-Native agreement would be consistent with the provisions of the government-to-government agreement. These programs would be binding on both the Native organizations and the governments as described in the government-to-government agreement. Programs would be conducted in consultation or jointly with the respective Native or government entity.

The Fish and Wildlife Service would enter into a cooperative agreement with the Alaska Nanuuq Commission to clearly delineate government and Native organization roles and responsibilities to implement the terms of the agreement and to ensure that harvest quotas, based on harvest guidelines, are enforceable and accompanied by a monitoring and verification program to ensure accountability. The Service would continue to maintain overall responsibility for polar bears in the U.S. as would the Russian Federation in Russia.

Issue: Under government-to-Native implementation agreements discussed in Alternative 3 , it would be useful to address ways to better delineate governmental and Native responsibilities, and to heighten accountability and enforceability.

Response: The EA has been modified to indicate that a memorandum of understanding between the Service and Alaska Nanuuq Commission would be developed.

Issue: The statement that "government endorsement of the Native-to-Native agreement would allow for meaningful involvement, support, and implementation at the user level" is unclear regarding to what type of support or involvement the Service is referring, by whom it would be supplied, and why endorsement of the Native-to-Native agreement by the respective governments is needed to allow for such support or involvement to be provided.

Response: The text has been modified to indicate that the government-to-government agreement would formalize this relationship and provide legal and operational standing for the Alaska Nanuuq Commission and the Chukotka Native Marine Mammal Commission which is essential to the ultimate success of this agreement. It would provide each of the two Native organizations a voting role on the decision making body, the joint commission. It would authorize implementation of terms of the agreement through the Native-to-Native agreement as well as provide for accountability for actions under this arrangement. Technical assistance and cooperator status in various projects by the government agencies would be the primary form of support. Financial support is uncertain, although Section 119 of the MMPA provides an authorizing mechanism to allow appropriations for co-management. If a separate Congressional action occurs to ratify the agreement, a section in the ratifying legislation could authorize appropriation of funds for implementation and thus may offer opportunities for fiscal support to the government organization as well as the Alaska Nanuuq Commission.

Issue: The expected relationship between the joint commission and the scientific advisory body needs elaboration. Among the duties of the joint commission identified are identifying, setting priorities for, and coordinating joint research, and identifying habitats essential to polar bears. Such actions should be taken by the joint commission only after consultation with, and fully taking account of the advice of, the scientific advisory body.

Response: The Service has modified this section to indicate that consultation with the scientific advisory group is appropriate for these and additional topics.

Issue: To be consistent with the MMPA, the parenthetical clause in item 1) of the proposed responsibilities of the joint commission should be revised to provide reasonable assurance that the take does not exceed the annual recruitment of the Alaska-Chukotka stock of polar bears and to maintain the stock within its optimum sustainable population range. Item 2) of the proposed responsibilities should be revised to reflect that the prohibitions on take, trade, and sale of polar bears would be

established as part of the proposed agreements, not by the joint commission. As discussed in the general comments, items 3) and 4) should be based on the advice of the scientific advisory body. If retained as duties of the joint commission, items 3) and 4) should be expanded to note that these activities would be based on advice and information provided by the proposed scientific advisory body. The role of the joint commission regarding the capture and maintenance of orphaned and rehabilitated bears is unclear.

Response: As elaborated elsewhere, a primary objective of the proposed agreement and the function of the joint commission would be to ensure that the population and harvest levels remain sustainable. Consistent with this objective, the maintenance of the population within optimum sustainable levels would continue to be a goal of U.S. domestic conservation efforts. The emphasis that sustainable take which is at or below net recruitment values would be the primary standard to achieve this goal in the agreement between the U.S. and Russia. The scientific advisory group would evaluate take levels in relationship to annual net recruitment and population levels. The prohibitions on take, trade, and sale of polar bears would be established as part of the proposed agreements and implemented by the joint commission. The scientific advisory body would be consulted regarding research, harvest monitoring, contaminants monitoring, population assessment, identification of essential habitats and joint conservation measures. The EA correctly indicates that the joint commission would develop recommendations (emphasis added) concerning capture and maintenance in captivity of orphaned and rehabilitated polar bears. This would not be a major task of the joint commission, and in the U.S. its function is adequately covered by the MMPA, however this may be an issue in Russia and the joint commission would retain the flexibility to review and provide recommendation on this subject as needed in the future.

Issue: The identified benefits of Alternatives 2 and 3 would be clearer if reworded to read: "a mechanism to control taking by Natives in the United States and Russia to maintain the stock within its optimum sustainable population range rather than waiting until the population has been depleted." In item 4) it is unclear to what types of consultation and monitoring the Service is referring.

Response: Clarifying text has been added to the Final EA. See also the preceding response.

Issue: One commentor raised a point of clarification that the establishment of harvest limits should be conservative, not the allocation.

Response: EA has been corrected. Further, additional information has been included to indicate that it would be prudent to establish a conservative sustainable limit below the actual sustainable yield using the minimum of a range of population estimates and the lower rates of net recruitment. This biological estimate of sustainable take will be referred to as "harvest limit." The harvest limit may range from a maximum sustainable estimate to a minimum sustainable estimate and may include no harvest.

Issue: One commentor noted that a key feature of the envisioned bilateral agreement is the establishment of quotas and allocation of those quotas between the two countries to ensure that the stock is not subject to over-harvesting. A complicating factor is that the ranges of the Chukchi/Bering Sea stock and the Beaufort Sea stock overlap in the area between Point Hope and Barrow. The final EA should be expanded to discuss the options available to the Service to apportion polar bears harvested in that area to either stock and how such apportionment will ensure that the quotas established under the proposed bilateral agreement and the NSB/IGC management agreement are not exceeded.

Response: It is not the purpose of the EA to describe a fixed formula for apportioning the harvest with respect to the area of overlap between the two populations. However the general subject is appropriate and has been included in order to allow the reader to understand that the take regulations would also consider factors other than population size and recruitment. For these areas the available information regarding exchange rates of polar bears between the two populations would be evaluated in relationship to existing management strategies. Allocation would consider the NSB/IGC conservation agreement for the southern Beaufort Sea. The scientific advisory group would provide recommendations to the joint commission in making harvest limit decisions in consideration of this factor.

Issue: One commentor indicated the EA should be revised to note that proposed take regulations would be designed to ensure consistency not only with the 1973 Agreement, but also with the MMPA and that issues of commercial use should be addressed. The EA should clarify whether the Service or Native groups seek expansion of commercial opportunities under a bilateral agreement beyond those currently provided for under the MMPA.

Response: The topic of consistency with the MMPA has previously been addressed. With regard to commercial uses the text has been modified to indicate that the proposed agreement would prohibit large scale commercial uses of polar bears or their by-products. No expansion of existing uses in Alaska would be anticipated.

Issue : The bilateral agreement should expressly prohibit and provide enforcement penalties for commercial uses of polar bears or their parts or by-products and take steps to eliminate the trade, import, export, sale, barter, purchase of these items. The parties should compile information on poaching, and take enforcement actions to reduce the problem.

Response: The Service and the Russian Federation in earlier discussions were in accord regarding prohibiting commercial uses of polar bears or their parts and eliminating the trade, import, export, sale, barter, or purchase of these items, consistent with national laws of the Party. In the U.S. specifically related to this issue, the present terms of the MMPA which allow for a small scale cottage industry for Native handicrafts are expected to remain in effect. Regarding the issue of poaching and reporting illegal takes, the Parties through active enforcement programs will report any incidences of illegal

hunting which are detected, provide for penalties as a deterrent to the activity, and take other steps as appropriate to curb the activity.

Issue: The agreement should also expressly prohibit the use of large motorized vessels or aircraft in taking (take is implied to mean lethal) polar bears.

Response: The parties during earlier discussions concur that the agreement should prohibit these means of transportation in taking polar bears although some specifics would be deferred to laws of the respective party. Either Party may unilaterally within domestic laws, implement regulations more restrictive, but not less restrictive, than the general prohibitions in the agreement.

Issue: Implementation of a conservation agreement with Russia should only be undertaken following development and demonstrated implementation of an active management and enforcement program. In particular, the current ban on hunting polar bears in Russia should be enforced prior to initiating a regulated harvest. A verification or approval procedure of each countries management programs should be included prior to initiating a harvest.

Response: The Service agrees with the recommendation that Russia or the U.S. should demonstrate its ability to actively carry out the terms of the bilateral agreement which include harvest monitoring and enforcement and that verification of each country's program should occur prior to initiating a harvest under this agreement. Regarding enforcing the Russian ban on hunting prior to initiating a harvest, representatives of the Russian Federation Ministry of the Environment have expressed a desire to renew a harvest, contingent upon a status change in the Red Data Book. Therefore, it is unlikely that long-term enforcement of the ban on hunting polar bears would be considered. However, enforcement of the existing ban on a short-term basis could be considered as a prerequisite to approval of the proposed Russian management regime.

Issue: The EA states that a likely benefit of Alternative 3 would be curbing the illegal take of polar bears in Russia. Further explanation of the rationale for this belief needs to be provided. For example, it is unclear why the economic incentives of foreign markets would be diminished if some types of domestic take were authorized. Also, the Service assumes that Russia will lift the ban on Native hunting if a government-to-government agreement is concluded, this is not necessarily the case. It is possible that legalization of some hunting might create enforcement problems by allowing a "cover" for illegal or excessive harvests. That is, it is easier to enforce a complete ban on hunting than a ban which permits some hunting, but which precludes hunting beyond a certain level or for certain purposes.

Response: Additional clarification has been added. Enforcement of harvest quotas or enforcement of the existing ban on take in Russia would presumably curb illegal take. Penalties would serve as a deterrent for these actions. Although a total ban may be simpler to enforce, any harvest program would include provisions requiring the marking and tagging of hides and skulls of polar bears, thus allowing for a determination on whether the take itself was legal since untagged parts would be considered to be

illegal. The issue of illegal trade remains under either situation and an unquantified demand for bear parts would continue. The level of enforcement and severity of penalties would determine the effectiveness of enforcement against illegal trade. Compliance with terms of a management program, or a temporary enforced ban on harvest which is designed to demonstrate capability to implement a future harvest program, would be the incentive for compliance. Lack of potential or real benefits of a harvest program, conversely, could result in lack of endorsement and compliance by hunters with harvest restrictions.

Issue: The draft EA states that "take" would include non-consumptive uses such as photography and viewing. Most photography and viewing of marine mammals, including polar bears occurs without taking as defined in the MMPA. To avoid confusion a definition of take that parallels the MMPA should be adopted. This would include non-consumptive uses that result in harassment or capture, but not necessarily all encounters between polar bears and humans.

Response: The EA has been modified to indicate that viewing and photography are non-consumptive uses of polar bears which would be allowed consistent with conservation of the population. The reference to "take" has been deleted.

Issue: One commentor indicated that the terms "allocation" and "quota" as defined were used inconsistently in one instance.

Response: We concur. The text has been revised accordingly.

Issue: One commentor noted that the sport hunting discussion was unclear. Could sport hunting potentially be authorized pursuant to a waiver of the MMPA's moratorium on taking marine mammals, although it is not currently authorized. If, as it appears, the Service is discounting the possibility that sport hunting of polar bears from this population could be authorized, further explanation is needed.

Response: The Service did not imply nor intend to imply that the MMPA's waiver provisions could not be used to authorize sport hunting. The text has been modified to indicate that sport hunting would not be considered a viable use of polar bears for Alternatives 1-3 given the current state of U.S. domestic law, although the waiver provisions of the MMPA currently allows the potential for this type of use. While sport hunting would not be a use considered within the agreement, nor is it an alternative under consideration, it would not be expressly prohibited. Thus future options would remain available, although any reconsideration of sport hunting by either party would require a separate authorizing action, such as waiving the moratorium on take under the MMPA, which would be subject to NEPA requirements in the U.S.

Issue: The following should be included: "Sport hunting of polar bears or the commercial sale of raw polar bear parts would remain illegal in the United States unless authorized under a waiver of the MMPA's moratorium."

Response: Clarifying text has been added.

Issue: The EA should note that even if sport hunting from the Chukchi/Bering seas stock were to be precluded, sport hunting of the Beaufort Sea stock in Alaska would still be possible under the waiver provision of the MMPA.

Response: A bilateral agreement which provides for regulated Native harvest is preferred for the Alaska-Chukotka population. Sport hunting is not considered as an alternative for the purposes of this proposed action. If sport hunting were considered an appropriate and compatible use under the bilateral agreement, the take provisions would apply only to the Chukchi/Bering seas stock of polar bears. Any such action must be consistent with the Agreement on the Conservation of Polar Bears. Adoption of Alternative 3 would not preclude sport hunting in the Beaufort Sea which could still occur in Alaska under a waiver of the MMPA moratorium.

Issue: Additional information regarding the negotiating process and composition of the negotiating team should be provided. A public at large representative should be included on the joint commission in order to represent the intrinsic values of polar bears to the general public.

Response: The Service would request the U.S. Department of State to initiate the Circular 175 process to grant authority for the negotiation of a bilateral agreement. A legal memorandum would accompany the Circular 175 memorandum. Upon approval, the Service and the Department of State would form a delegation of government and non-governmental-organizations representatives to negotiate the treaty. Non-governmental representative(s) would be included as delegate members as well as representatives from the State of Alaska, the Marine Mammal Commission, Office of the Solicitor (Department of the Interior), and the Alaska Nanuuq Commission. The Service and Department of State would be the co-leads for the negotiating delegation.

Further, upon ratification of any agreement, the joint commission would be comprised of four representatives, two from each country, acting in behalf of the governments of the U.S. and Russia. The composition of each country's representatives would include one representative of the primary federal natural resource agency with conservation responsibility for polar bears and one representative from the Native organization responsible for sharing in implementation of the treaty. The Service has not included a public-at-large representative(s) on the joint commission but acknowledges the importance of their contributions to the joint commission and scientific advisory group. As indicated in the draft EA, the meetings of the joint commission would be open to public participation and the proceedings of these annual meetings would be published and available to the public. The scientific advisory group would be comprised of specialists in the field of polar bear ecology, including academia, Natives, conservation representatives, in addition to agency personnel, and would operate in concert with the joint commission. The scientific advisory group meetings would also be open to public participation and the proceedings published and available to the public. The general public interest in

maintaining the population at sustainable levels will be central to the operation of both the joint commission and the scientific advisory group. The intrinsic values of polar bears to the ecosystem and the overall public would be represented through these avenues.

Issue: Do not include amendment of the MMPA as an option for developing enabling legislation for the agreement.

Response: Amending the MMPA would remain as an option for obtaining enabling legislation although it would not be the preferred mechanism.

HABITAT ISSUES

Issue: The draft EA indicates that anthropogenic threats to polar bears include pollution and habitat destruction. The proposed management agreement should address whether actions are contemplated to alleviate threats from pollutants. The EA should indicate whether joint actions are contemplated to address threats from pollutants and discuss how the proposed bilateral agreement might be structured to reduce such threats.

Response: The EA has been revised to reflect that the parties to the proposed agreement should monitor pollutants and contaminants levels or trends and develop curative recommendations or joint projects to alleviate threats if detected.

Issue: One commentor questioned how Alternatives 2 and 3 would enhance the likelihood that "steps would be taken to prevent habitat destruction or degradation that results in injury or mortality of polar bears, or reduction of productivity in the Alaska-Chukotka polar bear population." Why the Service believes that a government-to-Native agreement or a government-to-government agreement would be any more successful than the existing provisions of the Agreement on the Conservation of Polar Bears designed to protect important polar bear habitat, or the take prohibition of the MMPA which, among other things, proscribes activities (including habitat destruction) that result in the injury or death of a marine mammal, should be explained.

Response: Clarifying text has been added. The bilateral agreement would supplement existing international and domestic treaties and laws relevant to habitat protection and require coordination for activities with a potential to affect the habitat base. Structured coordination would occur through the joint commission with input from the scientific advisory group. The agreement as envisioned would also foster and enhance the probability that joint projects for monitoring the welfare of the Chukchi/Bering seas ecosystem would be conducted. The text notes that each party has a vested interest in the actions of the other and that because of a greater emphasis (and accountability) to coordinate habitat protection measures the result may be that more tangible measures or actions are taken over time. With the more explicit, focused, and direct international nature of the agreement these types of actions or projects would take on greater importance and emphasis than if they were conducted or attempted

independently. Consequently, it is believed that they would have a greater likelihood of being implemented.

Issue: One commentor noted that it was unclear why actions to conserve or restore important polar bear habitat would be limited to those that could be taken "opportunistically" under existing legal authorities.

Response: The text has been revised to indicate that efforts to conserve important habitat would continue to be initiated within the framework of existing legal authorities.

Issue: As under Alternative 1, actions to protect habitat under Alternative 2 should not be limited to those that can be taken "opportunistically." In addition, it would seem that establishment of a government-to-Native agreement provides an additional opportunity to formalize habitat protection and restoration as an element under that agreement. This should be recognized in the discussion of this alternative.

Response: The Service concurs and the text has been modified accordingly.

Issue: Greater recognition should be placed on maintaining habitat integrity and development of more refined and accurate information regarding important habitats such as leads and polynyas. A section which discusses the cumulative effects of a variety of threats in combination with over harvest should be presented. Regarding polar bear habitat on Wrangel Island, greater recognition should specify the island's importance to polar bears of this population. The agreement should provide for protection of these habitats, particularly denning habitat.

Response: Future research and the inclusion of traditional ecological knowledge should provide additional clarity on the status of populations and habitat use relationships or more definitive spatial/habitat use information on which to base enlightened management decisions. Regarding the cumulative effects of a variety of habitat threats, it is beyond the scope of this document to present an evaluation of cumulative effects even if comprehensive information existed which allowed for this type of an assessment. The inference of the comment that a combination of over harvest and habitat impacts could have vastly detrimental impacts to the population is correct, however, and the agreement would sanction environmental monitoring to detect changes or threats. The comment regarding the importance of Wrangel Island to the population is also appropriate. Wrangel and Herald islands represent the most important denning habitats for this population and the integrity and value of these islands for denning (and feeding) polar bear should be maintained and enhanced if necessary.

Issue: The preferred alternative increases Federal management authority in particular for habitat conservation. It is unclear how the proposed changes would affect industry's ability to operate in polar bear habitat. (The EA states that the U.S. would seek additional authority to regulate take and enhance (emphasis added) opportunities for habitat conservation). Alternative 3 would transfer management

authority from the Service to an international joint commission yet does not describe the relationship of the commission's role to existing domestic habitat conservation founded in a variety of laws. Would the take provisions (i.e., incidental take) be addressed by the joint commission? The EA does not describe the positive ongoing efforts by industry to minimize or mitigate for polar bear effects while operating in polar bear habitat.

Response: The preferred alternative (Alternative 3) would increase federal management authority primarily to regulate Native subsistence harvest. It does not create a new authority to regulate activities which affect habitat. This alternative also describes a shared commitment and responsibility by the Service and Native organization in implementation of this authority with oversight by the joint commission. The EA indicates that the additional authority would be to enhance habitat conservation opportunities. These opportunities consist principally of annual review by the joint commission and scientific advisory group of each country's measures or actions to protect habitat, an assessment of the effectiveness of these measures or actions, evaluation of need for improvement, recommendations for improvement, and evaluation of future potential or real threats to habitat. Domestic laws related to habitat conservation would continue to remain in effect and the joint commission would not oversee the issuance of permits or LOA under U.S. domestic law. This information has been included within the Final EA. The positive role of industry to monitor, minimize, and mitigate for effects of human activities on polar bears has been substantial and is duly noted. It is true that operators to a great extent have assisted in these efforts and in many instances have gone beyond the requirements of the law and supported studies on the ecology and habitat relationships of polar bears as well as the collection of baseline information regarding contaminants. These efforts in furthering the goals of polar bear conservation are acknowledged and appreciated.

Issue: One commentor noted that although a decision whether or not to apply for a Letter of Authorization (LOA) is strictly within an operator's discretion is technically correct, the Service should note the practical consequences of not obtaining such an authorization for operations in areas inhabited by polar bears or other marine mammals. Thus no incidental taking would be authorized and any taking would be actionable as a violation of the MMPA without an LOA. In addition, operators who take marine mammals, or even have a reasonable likelihood of taking marine mammals, without the necessary authorization run the risk of having their activities enjoined until such authorization is obtained.

Response: The text has been modified to indicate that in the absence of an LOA operators or individuals remain liable for unauthorized takes under provisions of the MMPA and that any reduction in industries' participation in this program could alter the level of threat to polar bears or their habitat or the finding of negligible impact required by the regulations as necessary for the issuance of LOAs. In the U.S. the proposed agreement would not alter existing provisions of the MMPA Section 101(a)(5) regarding incidental take.

AGREEMENT ON THE CONSERVATION OF POLAR BEARS

Issue: Although the possibility of Russia legalizing polar bear hunting is discussed elsewhere under Alternative 1, it would be useful to recognize this possibility and note that, depending on what is authorized, new compliance problems with the 1973 Agreement may be created.

Response: The Service, after considering the context of the original statement, has modified the text.

Issue: A comment was noted that under Alternative 2 an independent Native-to-Native agreement would need to be consistent with the provisions of the Agreement on the Conservation of Polar Bears as well as with the domestic legislation of each country. This could be accomplished by replacing the phrase "existing domestic legislation" with the word "laws," which would include not only domestic legislation but, applicable provisions of international treaties.

Response: The text has been modified to also indicate consistency with domestic laws.

Issue: The text suggests that provisions to protect females, cubs, and denning bears, to prohibit the use of aircraft or large motorized vessels for hunting, and to implement harvest guidelines and quotas would be included in the proposed Native-to-Native agreement, but not in the government-to-government agreement.

Response: The EA does not suggest that the government-to-government agreement would not include these provisions. The Native-to-Native agreement would be consistent with the government-to-government agreement and both would be consistent with the International Agreement.

Issue: The agreement should expressly prohibit sport hunting for polar bears and indicate the U.S. intention not to alter the current status regarding sport hunting.

Response: Regarding sport hunting, the agreement provides exclusive consumptive use of polar bears to Native people of Alaska and Chukotka. While sport hunting is not expressly prohibited it is not considered as an alternative of this proposed action and is not an issue. The Service as a matter of record has determined that sport hunting of polar bears is consistent with the 1973 Agreement on the Conservation of Polar Bears. As pointed out in the EA, the MMPA currently provides the Secretary of the Interior with the authority to waive the moratorium on take under specific circumstances (including sport hunting), therefore, hypothetically sport hunting could occur in the U.S.

Issue: The final EA should address the likelihood of whether a government-to-Native agreement will be negotiated in Russia under Alternative 2, and whether or not a sport hunt would be instituted there under these circumstances.

Response: Belikov (1997) indicates that a government-to-Native agreement, as described in Alternative 2, is unlikely to be instituted in Russia, given the current economic situation. Whether or not a legal sport hunt is likely is difficult to forecast. There is some indication that an increased interest in

harvesting wildlife, including polar bears, is occurring due to economic hardships in the northern regions and a continued demand in Asian and European markets.

OTHER ISSUES AND EDITORIAL COMMENTS

Issue: The EA should explain the extent to which illegal trade in polar bear products is believed to be occurring and why the provisions of CITES are not sufficient to regulate trade in polar bear products resulting from illegal harvests of polar bears. Since polar bears and polar bear products cannot legally be exported from Russia or imported into another country without a CITES permit, clarification is needed.

Response: It is correct that CITES would generally prohibit the traffic in polar bear parts from Russia since taking is prohibited (export permits for legally taken polar bears or their products would be available). The EA does not infer that provisions of CITES are inadequate. However, CITES provisions may not be adhered to when polar bear parts are shipped illegally from the country. There is no information available on the level of illegal international trade in polar bear parts to European or Asian markets. Some traffic in polar bear hides has been reported from observers in northern coastal settlements of Chukotka. The traffic in polar bear parts has been noted in association with vessels supplying villages with fuel, food, and other commodities, and with tour boats and tourists visiting these remote areas. The magnitude of this reported trade and the ultimate destination of polar bear parts, within country or out of country, has not been substantiated and is a matter of conjecture. The EA correctly indicates that additional monitoring and enforcement are necessary.

Issue: One commentor noted that CITES provisions already require the close monitoring of trade in polar bear parts or derivatives and presumably such requirements are being followed. Further discussion of the provisions of CITES along with a discussion of the apparent ineffectiveness of the Convention in detecting and stemming illegal trade in polar bear parts would be useful as well as a description of additional measures to prevent illegal trade that are needed or contemplated under the government-to-government agreement.

Response: Clarifying text has been included.

Issue: The EA should indicate that CITES Appendix II includes those species that, "although not necessarily now threatened with extinction may become so unless trade in specimens of such species is subject to strict regulation in order to avoid utilization incompatible with their survival."

Response: The text has been modified to reflect this statement and also to indicate that polar bears in the Chukchi/Bering seas are not now (USFWS 1995a) nor in the foreseeable future "threatened with extinction."

Issue: One commentor noted that the EA states that Alaska populations of polar bears "are thought to have increased in recent years and appear to be at healthy levels and within the carrying capacity of their environment." "[T]his growth is primarily attributed to maintenance of the habitat base and the approximate 50% annual reduction in harvest which occurred with the implementation of the MMPA in 1972." Collectively, these sentences imply that the polar bear populations in Alaska may have been depleted when the MMPA was enacted and now are thought to be at or above their maximum net productivity levels with respect to current carrying capacity. It would be useful to indicate why the populations are believed to be at or above their maximum net productivity levels. Alternatively, the Service may want to note that, if allowable take levels are determined using appropriately conservative estimates of minimum population size and net productivity, the populations will continue to grow and will eventually equilibrate at or above their maximum net productivity levels, even if they are not currently at those levels.

Response: The EA does not indicate that the Chukchi/Bering seas polar bear population was thought to be depleted in the past and no inference as such should be assumed. The original statement is correct and reference information on the status of the population may be found in Appendix G. Polar Bear Stock Assessments: Alaska Chukchi/Bering Stock. As noted in the text the Service, through the joint commission and in consultation with the scientific advisory committee, would take a conservative approach to the establishment of allowable take levels.

Issue: The Alaska National Interest Lands Conservation Act of 1980 established several types of protected areas including wildlife refuges. Therefore, something like "protected areas, including..." should be inserted before the word "wildlife."

Response: The text has been revised.

Issue: The NSB/IGC management agreement does not have the "force" of international or federal law. The discussion might be expanded to note that, even without being binding as a matter of international or domestic law, the existing Native-to-Native agreement has been an effective tool for conserving the Beaufort Sea stock of polar bears.

Response: The text has been revised and additional clarification provided.

Issue: The meaning of the phrase "overall trust responsibility" used in the last sentence is unclear. The Service should clarify whether it will retain ultimate responsibility for implementing the management agreement and for meeting its obligations under the MMPA, including enforcement. This could be done by deleting the word "trust."

Response: As indicated previously in the response to comments the Service clearly would retain ultimate responsibility for polar bear conservation including enforcement. The word "trust" has been deleted although the Service's authority would exist regardless.

Issue: One commentor indicated that the word "valid" suggests that other types of taking (e.g., taking pursuant to a waiver) may not be valid. They recommended revising the wording to note simply that these forms of taking are "permissible" under the MMPA, provided certain conditions are met. In addition, it would be useful to note how often each type of taking has been authorized and, if possible, the numbers of polar bears taken.

Response: The EA has been revised. However, Webster's Dictionary defines valid to include the following terms: confirmed, lawful, established, legal, acceptable, and similar terms. As such, either the term "valid" or "permissible" would be accurate. The text has been revised to indicate that removal of animals from the population by other permissible forms of take have been minor and average less than one bear per year since 1990. These forms of removal were associated with public display of orphaned cubs, in defense of human life, and for scientific purposes.

Issue: The reference to the Chukchi polynya in one instance should presumably be to the Chukotka polynya.

Response: The text has been corrected.

Issue: The EA should include public information and education as a component of a future bilateral agreement.

Response: The Service agrees and has modified the EA to include the importance of public conservation education as a management technique necessary to fulfilling any future agreement or treaty.

Issue: The EA states that the joint commission would meet only annually; this should be changed to more frequent meetings in the beginning.

Response: The Service believes annual meetings are realistic and prudent given financial constraints. Both countries maintain the option of meeting more frequently if deemed necessary.

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Personal Communication

Jack Lentfer, Marine Mammal Commission, Homer, Alaska.

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APPENDIX A: Agreement on the Conservation of Polar Bears

The Governments of Canada, Denmark, Norway, and the Union of Soviet Socialist republics, and the United States of America,

Recognizing the special responsibilities and special interests of the States of the Arctic Region in relation to the protection of the fauna and flora of the Arctic Region;

Recognizing that the polar bear is a significant resource of the Arctic Region which requires additional protection;

Having decided that such protection should be achieved through co-ordinated national measures taken by the States of the Arctic Region;

Desiring to take immediate action to bring further conservation and management measures into effect;

Have agreed as follows:

ARTICLE I

1. The taking of polar bears shall be prohibited except as provided in Article III.

2. For the purpose of this Agreement, the term "taking" includes hunting, killing and capturing.

ARTICLE II

Each Contracting Party shall take appropriate action to protect the ecosystems of which polar bears are part, with special attention to habitat components such as denning and feeding sites and migration patterns and shall manage polar bear populations in accordance with sound conservation practices based on the best available scientific data.

ARTICLE III

1. Subject to the provisions of Articles II and IV, and Contracting Party may allow the taking of polar bears when such taking is carried out:

(a) for *bona fide* scientific purposes; or

(b) by that Party for conservation purposes; or

(c) to prevent serious disturbance of the management of other living resources, subject to forfeiture to that Party of the skins and other items of value resulting from such taking; or

(d) by local people using traditional methods in the exercise of their traditional rights and in accordance with the laws of that Party; or

(e) wherever polar bears have or might have been subject to taking by traditional means by its nationals.

2. The skins and other items of value resulting from taking under sub-paragraphs (b) and (c) of

paragraph 1 of this Article shall not be available for commercial purposes.

ARTICLE IV

The use of aircraft and large motorized vessels for the purpose of taking polar bears shall be prohibited, except where the application of such prohibition would be inconsistent with domestic laws.

ARTICLE V

A Contracting Party shall prohibit the exportation from, the importation and delivery into, and traffic within, its territory of polar bears or any part or product thereof taken in violation of this Agreement.

ARTICLE VI

1. Each Contracting Party shall enact and enforce such legislation and other measures as may be necessary for the purpose of giving effect to this Agreement.

2. Nothing in this Agreement shall prevent a Contracting Party from maintaining or amending existing legislation or other measures or establishing new measures on the taking of polar bears so as to provide more stringent controls than those required under the provisions of this Agreement.

ARTICLE VII

The Contracting Parties shall conduct national research programs on polar bears, particularly research relating to the conservation and management of the species. They shall as appropriate coordinate such research with research carried out by other Parties, consult with other Parties on the management of migrating polar bear populations, and exchange information on research and management programs, research results and data on bears taken.

ARTICLE VIII

Each Contracting Party shall take action as appropriate to promote compliance with the provisions of the Agreement by nationals of States not party to this Agreement.

ARTICLE IX

The Contracting Parties shall continue to consult with one another with the object of giving further protection to polar bears.

ARTICLE X

1. This Agreement shall be open for signature at Oslo by the Governments of Canada, Denmark, Norway, the Union of Soviet Socialist Republics and the United States of America until 31st March 1974.

2. This Agreement shall be subject to ratification or approval by the signatory Governments. Instruments of ratification or approval shall be deposited with the Government of Norway as soon as possible.

3. This Agreement shall be open for accession by the Governments referred to in paragraph 1 of this Article. Instruments of accession shall be deposited with the Depositary Government.

4. This Agreement shall enter into force ninety days after the deposit of the third instrument of ratification, approval, or accession. Thereafter, it shall enter into force for a signatory or acceding Government on the date of deposit of its instrument of ratification, approval or accession.

5. This Agreement shall remain in force initially for a period of five years from its date of entry into force, and unless any Contracting party during that period requests the termination of the Agreement at the end of that period, it shall continue in force thereafter.

6. On the request addressed to the Depositary Government by any of the Governments referred to in paragraph 1 of this Article, consultations shall be conducted with a view to convening a meeting of representatives of the five Governments to consider the revision or amendment of this Agreement.

7. Any Party may denounce this Agreement by written notification to the Depositary Government at any time after five years from the date of entry into force of the Agreement. The denunciation shall take effect twelve months after the Depositary Government has received the notification.

8. The Depositary Government shall notify the Governments referred to in paragraph 1 of this Article of the deposit of instruments of ratification, approval or accession, of the entry into force of this Agreement and of the receipt of notifications of denunciation and any other communications from a Contracting Party specifically provided for in this Agreement.

9. The original of this Agreement shall be deposited with the Government of Norway which shall deliver certified copies thereof to each of the Governments referred to in paragraph 1 of this Article.

10. The Depositary Government shall transmit certified copies of this Agreement to the Secretary General of the United Nations for registration and publication in accordance with Article 102 of the Charter of the United Nations.

IN WITNESS WHEREOF the undersigned, being duly authorized by their Governments, have signed this Agreement.

DONE at Oslo, in the English and Russian languages, each text being equally authentic, this fifteenth day of November, 1973.

I hereby certify that this is a true copy of the original document deposited in the archive of the Royal Norwegian Ministry of Foreign Affairs.

Per Tresselt.
Head of Division, Legal Department
Royal Norwegian Ministry of Foreign Affairs.

Resolution appended to the 1973 Agreement on the Conservation of Polar Bears by the Plenipotentiaries who signed the Polar Bear Agreement

RESOLUTION ON SPECIAL PROTECTION MEASURES

THE CONFERENCE,

BEING CONVINCED that female polar bears with cubs and their cubs should receive special protection;

BEING CONVINCED FURTHER that the measures suggested below are generally accepted by knowledgeable scientists to be sound conservation practices within the meaning of Article II of the Agreement on the Conservation of Polar Bears;

HEREBY REQUESTS the Governments of Canada, Denmark, Norway, the Union of Socialist Republics and the United States of America to take such steps as possible to:

1. Provide a complete ban on the hunting of female polar bears with cubs and their cubs; and
2. Prohibit the hunting of polar bears in denning areas during periods when bears are moving into denning areas or are in dens.

APPENDIX B: Inuvialuit Game Council and North Slope Borough Management Agreement for Polar Bears of the Southern Beaufort Sea

The Inuvialuit of Canada and the Inupiat of the United States,

Noting that both groups have traditionally harvested a portion of polar bears from the same population in the southern Beaufort Sea;

And Noting that the continued hunting of polar bears is essential to maintain the dietary, cultural and economic base of the groups;

And Noting that the maintenance of a sustained harvest for traditional users in perpetuity requires that the number of polar bears taken annually not exceed the productivity of the population;

And Noting that the International Agreement on the Conservation of Polar Bears makes provision for cooperation in the research and management of shared populations;

And Noting that nothing in this Agreement shall be read to abrogate the responsibilities of Federal, Provincial or State authorities under existing or future statutes;

And Noting that the Inuvialuit and the Inupiat will have a long-term fundamental influence on the maintenance and use of this resource and that the efforts of other parties will also be required to ensure effective conservation;

Have agreed as follows:

ARTICLE I

Definitions:

(a) The species considered in this Agreement is the polar bear (*Ursus maritimus*).

(b) The area covered by this Agreement is the southern Beaufort Sea from approximately Baillie Islands, Canada, in the east to Icy Cape, USA in the west.

(c) The people covered by this Agreement are the Inuvialuit of Canada and the Inupiat of the North Slope of Alaska.

(d) The settlements whose hunting practices may be affected by this Agreement are Barrow, Nuiqsut, Wainwright, Atkasuk and Kaktovik in the United States and Inuvik, Aklavik, Tuktoyuktuk and Paulatuk in Canada.

(e) Sustained yield is a level of taking which does not exceed recruitment and is consistent with population ranges determined to be optimal and sustainable.

(f) The Joint Commission shall consist of two (2) representatives designated by each of the Inuvialuit Game Council and the North Slope Borough Fish and Game Management Committee. The Technical Advisory Committee shall be appointed by the Joint Commission.

ARTICLE II

Objectives:

(a) To maintain a healthy viable population of polar bears in the southern Beaufort Sea in perpetuity.

(b) To provide the maximum amount of protection to female polar bears.

(c) To minimize detrimental effects of human activities, especially industrial activities, on important bear habitat.

(d) To manage polar bears on a sustained yield basis in accordance with all the best information available.

(e) To encourage the collection of adequate technical information on a timely basis to facilitate management decisions.

(f) To further refine the eastern and western boundaries of the population of polar bears.

(g) To encourage the wise use of polar bear products and by-products within the context of management on a sustained yield basis.

(h) To facilitate the exchange of polar meat and products between traditional users in Alaska and Canada (**Enabling legislation required**).

(i) To legalize the sale of polar bear hides and by-products by the traditional Alaskan users in Alaska (**Enabling legislation required**).

(j) To facilitate the export of polar bear hides and other polar bear products from the Western Arctic of Canada into the USA (**Enabling legislation required**).

(k) To consider at a later date a limited legalized Alaskan sport harvest of polar bears which emphasizes benefits to local hunters of the area (**Enabling legislation required for Federal management**).

ARTICLE III

Regulations: to conserve this population of polar bears, the Inuvialuit and the Inupiat have agreed as follows:

(a) All bears in dens or constructing dens are protected.

(b) Family groups made up of female and cubs-of-the-year or yearlings are protected. The birthdate of cubs is fixed at January 1 and cubs less than five feet (152 cm.) in straight line body length are protected. (c) The hunting season shall extend from December 1 to May 31 in Canada and from September 1 to May 31 in Alaska.

(d) The annual sustainable harvest shall be determined by the Technical Advisory Committee in consultation with the Joint Commission and shall be divided between Canada and Alaska according to annual review of scientific evidence. Allocation agreements shall be negotiated and ratified prior to September 1 annually. Each signatory to this Agreement shall determine for itself the distribution of the harvest within its jurisdiction.

(e) These regulations do not preclude either party from unilaterally introducing additional conservation practices within their own jurisdictions.

(f) Any readjustment of the boundaries pursuant to the above may necessitate a readjustment of user allocations under the management plan.

(g) The use of aircraft or large motorized vessels for the purpose of taking polar bears shall be prohibited.

(h) Each jurisdiction shall prohibit the exportation from, the importation and delivery into, and traffic within, its territory of polar bears or any part or product thereof taken in violation of this Agreement.

(i) Polar bears in villages during closed seasons should be deterred from the area.

(j) Polar bears threatening human safety or property may be taken at any time of the year and may be counted against the village allocation as ascribed by the Joint Commission.

ARTICLE IV

Collection of Data and Sharing of Information:

(a) The following data will be recorded for each bear killed: sex, date and location of the kill, and hunter's name.

(b) The following shall be collected from each bear killed: an undamaged post-canine tooth, ear tags or lip tatoos if the tags are missing, other specimens as agreed to by the hunters of either jurisdiction for additional studies.

(c) A summary of all harvest information from each jurisdiction shall be exchanged annually.

(d) The number of collars deployed for research purposes shall be limited to the minimum number necessary to provide accurate population information.

ARTICLE V

Duration of Agreement:

(a) This Agreement shall enter into force when it has been signed by the representative of both parties.

(b) This Agreement shall remain in force unless either Contracting Party requests it be terminated.

(c) Amendments to the Agreement may be proposed by either signatory and accepted or rejected by mutual agreement after consultation with the North Slope Borough Fish and Game Management Committee.

The Alaskan signatories of this document have no authority, to bind and do not purport to bind the North Slope Borough to any agreement which would otherwise be in violation of the exclusive federal treaty power established by the United States Constitution, but are acting solely as representatives of the local traditional user group of the polar bear resource in furthering the consultation, management, and information exchange goals of the International Agreement on the Conservation of Polar Bears.

SIGNED on this the 29th day of January, 1988 in the Town of Inuvik, Northwest Territories.

On behalf of the North Slope Inupiat
Nolan Solomon, Chairman North Slope Borough,
Fish & Game Management
Committee
Benjamin P. Nageak, Director, North Slope
Borough, Department of Wildlife Management

On behalf of the Inuvialuit Game Council
Alex Aviugana, Chairman, Inuvialuit Game
Council
Andy Carpenter, Vice Chairman, Wildlife
Management Advisory Council (N.W.T.)

APPENDIX C: Protocol of Intentions on the Conservation and Regulated Use of the Bering and Chukchi Seas Polar Bear Population Common to the United States and Russia

The Parties to the Protocol

Guided by the Agreement on the Conservation of Polar Bears between Denmark, Canada, Norway, USSR, and United States (1973);

Attaching great significance to the study, conservation and regulated use of the Bering and Chukchi Seas polar bear population common to the United States and Russia;

Recognizing that population's unique role in the lives of the indigenous Native peoples of Alaska and Chukotka, in the preservation and development of traditional ways of life and maintenance of ecological security in those regions;

Noting the fragility of the Bering and Chukchi Seas ecosystems and the international status of the polar bear habitat including denning, feeding areas, and migratory routes;

Guided by principles of sustainable use of the polar bear population and maintenance of its optimum sustainable population level;

Acknowledging the equal rights of each country to the use of the shared population;

Have decided:

1. In order to review all issues regarding the study, regulated use, and conservation of the polar bear population of the Bering and Chukchi Seas, the Ministry of Ecology and Natural Resources of the Russian Federation, the Association of Native Peoples of Chukotka and Kolyma, the U.S. Fish and Wildlife Service, and indigenous Natives of local communities of the West and Northwest coasts of Alaska will combine efforts to develop a management agreement for the Bering and Chukchi Seas polar bear population.
2. That such an agreement should specify the forms of cooperation, giving priority to the following: exchange of ecological information on the status of the Bering and Chukchi Seas polar bear population common to the United States and Russia with particular emphasis on evaluation of population abundance and regulation of its use; coordination and cooperation with international and Native organizations whose activities are connected with the study and conservation of polar bears; biomonitoring using coordinated methodologies; joint field research; coordination of polar bear conservation and management activities; and exchange of information on environmental legislation.
3. That it is essential to create special working groups composed of representatives of both government agencies as well as Native peoples to prepare proposals for such an agreement.

4. By mutual agreement, to convene a meeting of working groups composed of representatives of both government agencies as well as Native peoples to prepare proposals for such an agreement.

DONE on October 22, 1992 at Anchorage (Alaska, United States) in duplicate, in the English and Russian languages, both texts being equally authentic.

for the Ministry of Ecology and
Natural Resources
of the Russian Federation

for the Fish and Wildlife and Wildlife
United States Dept. of Interior
United States

Grigoriy K. Kovalyov
Deputy Director
Main Directorate of Biological
Natural Resources

Walter O. Stieglitz
Regional Director
Alaska Region

APPENDIX D: Protocol U.S./Russia Bilateral Agreement

PROTOCOL

U.S./Russia Technical Consultation for the Conservation of Polar Bears of the Chukchi/Bering Sea Region

Summary

Representatives from Russia and the United States (attendance list attached) met in Nome, Alaska on September 6-9, 1994, for the expressed purposes of advancing technical discussion on the joint conservation of the shared population of polar bears occupying the Chukchi, Bering and portions of the Eastern Siberian Sea. The following summarizes the highlights of these talks and establishes a direction for future efforts.

The following are major points of agreement of the Parties:

Summary

- * The 1973 International Agreement on the Conservation of Polar Bears shall serve as the basic framework for our joint conservation agreements.
- * The Parties agree that in order to accomplish the objectives of a conservation doctrine, that both a Government to Government Agreement in conjunction with a Native to Native agreement will be developed. Further the Parties resolve to facilitate Alaska Native to Chukotka Native communication in preparation of a Native to Native Agreement.
- * The Parties recognize that sound biological information, including scientific data and traditional ecological knowledge, will be fundamental to the agreement. Therefore, the Parties agree to continue and to expand cooperative research programs to enhance our knowledge of polar bears.
- * Principles of sustained yield will be institutionalized in the agreement and will serve as the basis for future harvest guidelines and allocation.
- * Subsistence use of polar bears including the making and selling of articles of handicraft and clothing is a recognized legitimate use.
- * Both Parties shall strive to minimize commercial exploitation of polar bears harvested for subsistence purposes.
- * Habitat protection and conservation shall be a cornerstone to a future agreement.

- * Both Parties recognize the need to make their best efforts to curb illegal take or trade of polar bears or their products within their respective jurisdictions.
- * Monitoring and verification programs shall be an integral component of a future agreement. All efforts shall be made to secure funding in support of the preparation and implementation of monitoring programs.
- * Both Parties resolve to seek appropriate authorizations to begin formal negotiation of this agreement as soon as possible.

Therefore, the Parties resolve to exchange documents to further the mutually agreed principles of conservation listed above.

The Parties further resolve to conduct consecutive meetings of Government to Government and Native to Native Parties to further advance the agreements and that these meetings shall be conducted not later than 1 year from the date of signing of this meeting summary.

The Parties also discussed the matter of conservation and management of the shared population of Pacific walrus, and signed a separate Protocol of Intentions which is appended to this Protocol.

Signed on September 9, 1994, in Nome (Alaska, U.S.A.) in duplicate in the English and Russian languages, both texts being equally authentic.

David B. Allen
Acting Regional Director
U.S. Fish and Wildlife Service
United States of America

Grigoriy Kovalev
Deputy Chief
Main Dept. of Biological Resources
Russian Federation

APPENDIX E: Protocol of the U.S./Russia Working Meeting for Preparation of Draft Principles for the Conservation and Management of the Chukotka-Alaska Population of Polar Bears

PROTOCOL

of the U.S./Russia Working Meeting
for Preparation of Draft Principles
for the Conservation and Management
of the Chukotka-Alaska Population of Polar Bears

During the period September 14-20, 1995 representatives of the United States of America and the Russian federation met in Petropavlovsk-Kamchatskiy, Russia for scientific and technical consultations to clarify their views in connection with the preparation of a future Agreement on the Conservation and Management of the Chukotka-Alaska population of Polar Bears. A list of the delegation members is attached.

The two sides discussed the following:

- the results of joint polar bear research in Russia and the U.S. during 1995, leading to the conclusion that the Chukotka-Alaska population is prospering and may be used for subsistence purposes to satisfy the customary and traditional needs of Native People not only of Alaska, but also of Chukotka.
- the status of polar bear conservation in the U.S. and Russia, noting that nature conservation agencies and organizations in the U.S. and Russia, and the Native People of Chukotka and Alaska are undertaking measures for the recovery and sustainability of the species' population abundance and the protection of its habitat and migration routes.
- legal aspects of national legislation on the conservation and management of their shared polar bear population, agreeing on the necessity of coordinating measures for the establishment of a mechanism for joint protection and further study of this population.
- the use of the Chukotka-Alaska population of polar bears for subsistence and the manufacture of handicrafts and clothing by the local Native People, noting that this must be based on the principles of sustainable use.
- the results of joint efforts by the Native Peoples of Chukotka and Alaska to work out ways of conserving and using polar bears, noting the constructive approach taken to this problem and the

interest of the Native People in hunting of polar bears, arising from the need to satisfy their traditional requirements and to establish scientifically-based standards for take.

The two sides also agreed on draft Principles for the Conservation and Management of the Chukotka-Alaska Population of Polar Bears. The text is attached. Additional consultations on Article 1.2 and Article 2 of the draft Principles will be conducted at a time to be agreed on by both sides.

It was mutually decided that the next meeting to adopt a draft text of a polar bear agreement will be held in the U.S. in the first quarter of 1996.

This Protocol was signed on September 19, 1995 in Petropavlovsk-Kamchatskiy, Russia in the English and Russian languages, both versions being equally authentic.

For the U.S. Fish and
Wildlife Service of the U.S.
Department of the Interior

For the Ministry of Environmental
Protection and Natural Resources
of the Russian Federation

David B. Allen
Alaska Regional Director

Grigoriy K. Kovalev
Deputy Director, Division of
Biological Resource Conservation

APPENDIX F: Protocol of Intentions Between the Indigenous Peoples of Chukotka and Alaska on the Conservation, Protection, Management, and Study of the Bering and Chukchi Seas Shared Polar Bear Population

The Parties to the Protocol:

Guided by

The Convention of the International Labor Organization # 169 regarding the indigenous and nomadic peoples in independent countries, the Arctic Environmental Protection Declaration (Rovaniemi, 1991) The Protocol of Intentions on the Conservation and Regulated Uses of the Bering and Chukchi Seas Polar Bear Population (1992), signed by the Ministry of Ecology and Natural Resources of the Russian Federation and the U.S. Fish and Wildlife Service, the Nuuk Declaration on the Arctic Development and Environment (1993), and the Resolutions of the 1st Congress of Indigenous Minorities of Chukotka (Anadyr, 1994),

and

Recognizing that population's unique role in the lives of the indigenous Native peoples in the preservation and development of their traditional ways of life, and Noting the fragility and vulnerability of the Bering and Chukchi Seas ecosystems and the international status of the polar bear habitat including migratory routes, and Recognizing the mutual concerns of Alaskan and Chukotkan users, Have decided:

1. In order to review all issues regarding the study, conservation and management of the shared polar bear population of the Bering and Chukchi Seas, to combine efforts of indigenous villages of the northern coastal areas of Chukotka and western and north-western coasts of Alaska to develop an Agreement for the joint management for the Bering and Chukchi Seas polar bear population.

2. The Agreement should follow the following priority principles of cooperation between the indigenous peoples of Chukotka and Alaska:

(a) The text of the agreement must not contradict the International Agreement on the conservation of Polar Bears (1972);

(b) It is essential to create a special working group composed of representatives of Indigenous peoples which must be involved in the work between the federal agencies of Russia and United States in the development of an international agreement between the United States and Russia;

(c) The Agreement must provide for a unified system of management of the polar bear population and protection of polar bear habitats on the basis of western scientific knowledge and the traditional knowledge of Natives and on the basis of their concerns of national subsistence use, including exchange of environmental information, estimates of population, and coordination of activity on conservation, protection and management of the shared population, and exchange of information on environmental jurisdiction;

(d) The Agreement must provide for the development of measures based on sustainable management and harvesting of the polar bear population by the indigenous peoples of Chukotka and Alaska as a source of food and subsistence use.

(e) The Agreement must take into consideration the appropriate environmental federal laws relating to Chukotka and Alaska and should assess responsibility for violating the requirements of the united management of the shared polar bear population.

3. This Protocol is a provisional one providing the basis for the future development of a more detailed plan and joint agreements on the management, study and conservation of the shared polar bear population by indigenous peoples of Chukotka and Alaska with the participation of federal agencies and the federal governments of Russia and United States.

4. To hold a meeting of working groups in 1994 in order to develop an Agreement between Native Peoples of Chukotka and Alaska on the joint management of the shared polar bear population.

DONE on April, 25, 1994 at Anadyr (Chukotka, Russia) in duplicate, in the English and Russian languages, both texts being equally authentic.

On behalf of
the Chukotka Natives

On behalf of
Natives of Alaska

Alexander A. Omrypkir
President

Charles H. Johnson
Executive Director

Zoya V. Baomaeva
Chairman of the Elders Council
Chukotka Native Association

Charles D. N. Brower
Executive Manager, Department
Of Wildlife Management,
North Slope Borough

Walter G. Sampson,
Vice President Lands,
NANA Regional Corporation

APPENDIX G: Polar Bear Stock Assessment

POLAR BEAR(*Ursus maritimus*): Alaska Chukchi/Bering Stock

U.S. Fish and Wildlife Service, Marine Mammals Management, Anchorage, Alaska

A Conservation Plan has been completed for polar bears in Alaska by the U.S. Fish and Wildlife Service (FWS 1994); all information contained in the Plan is incorporated by reference into this stock assessment. On August 23, 1994, a notice of availability and a request for public comments on a draft stock assessment was published in the *Federal Register* (59[162]:43353-43355). Comments were accepted through December 1, 1994. Public input, including that of the appointed Scientific Review Group for the Alaska Region, has been considered in the preparation of this document.

STOCK DEFINITION AND GEOGRAPHIC RANGE

Polar bears are circumpolar in their distribution in the northern hemisphere. They occur in several largely discrete stocks or populations (Harington 1968). Polar bear movements are extensive and individual activity areas are enormous (Garner 1990). Several polar bear stocks are known to be shared between countries. Lentfer (1974) hypothesized that two Alaska stocks exist based upon: (a) variations in levels of heavy metal contaminants of organ tissues (Lentfer 1976, Lentfer and Glaster 1987); (b) morphological characteristics (Manning 1971; Lentfer 1974; Wilson 1976); (c) physical oceanographic features which segregate the Chukchi Sea and Bering Sea stocks from the Beaufort Sea stock; and (d) movement information collected from telemetry studies of adult female bears (Lentfer, 1983, Amstrup 1995).

Recent studies (Garner et al. 1990; Amstrup 1995) have shown that the eastern bound of the stock is not further than Point Barrow, and very limited movement occurs sporadically into the Beaufort Sea. The western bound of the stock is near the eastern portion of the Eastern

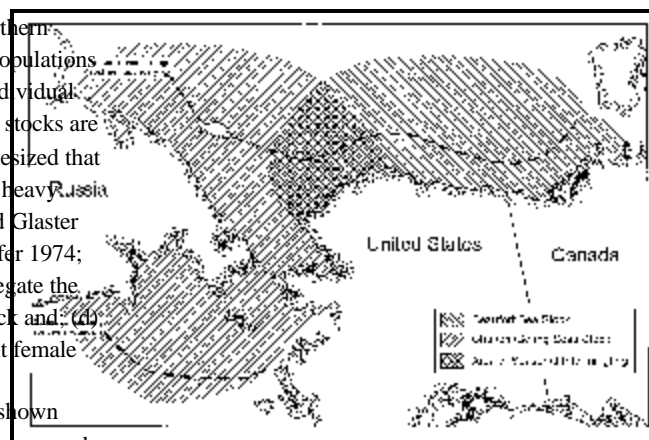


Figure 1. Polar bear distribution.

Siberian Sea. The boundary between the Eastern Siberian Sea and the Chukchi Sea is designed on the bases of movements of adult female polar bears captured on Wrangel Island (no movement into the Eastern Siberian Sea) and those captured in the Eastern Siberian Sea (limited short term movements into the western Chukchi Sea). The Chukchi/Bering seas stock extends into the Bering Sea; its southern boundary is determined by the annual extent of pack ice (unpublished data). Adult female polar bears captured in the Beaufort Sea, and their cubs, may make seasonal movements into the Chukchi Sea in an overlap located between Point Barrow and Point Hope, centered near Point Lay (Amstrup; Garner unpublished data). Telemetry data indicate that females marked in the Beaufort Sea, spend about 25% of their time in the northeastern Chukchi Sea, whereas females captured in the Chukchi Sea spend only a small amount of time in the Beaufort Sea. Activity areas of females in the Chukchi/Bering seas averaged 244,463 km² (Garner et al. 1990); radio collared adult females spent a greater proportion of their time in the Russian region than in American region (Garner et al. 1990). Genetic data evaluated do not currently indicate differences (Cronin et al. 1991).

Past management regimes have consistently distinguished between these stocks based upon the previous information. A management agreement between hunters of Alaska and the Northwest Territories is specific to the Beaufort Sea stock. Similarly, a future management agreement with Russia will be specific to the Chukchi/Bering seas stock. The bounds of these stocks may be refined in the future based upon the availability of new information, including a technique to assess genetic variability.

POPULATION SIZE

Polar bears occur at low densities throughout their circumpolar range (DeMaster and Stirling 1981). They are long lived, mature late, have a long breeding interval, and have small litters. Population size in Alaska has been difficult to estimate because of logistical inaccessibility of the habitat, movement of bears across international boundaries, and budget limitations (Amstrup and DeMaster 1988; Garner 1992).

Minimum Population Estimate

Brooks estimated a portion of the Alaska population to be 4,900 in 1970. Lentfer (ALJ 1977) suggested that the Chukchi/Bering seas stock (Wrangel Island to western Alaska) numbered about 7,000; the Beaufort Sea stock numbered about 2,500 (Banks Island Canada to Barrow). Chapman estimated the Alaska population (both stocks) at 5,550 to 5,700 (ALJ 1977). Statistical measures of confidence were not provided for any of these estimates. The Alaska population (both stocks) was most recently estimated at 3,000 to 5,000 animals (Amstrup and DeMaster 1988). The area for which the estimate applies, the analysis which resulted in the estimate, and the statistical reliability or accuracy of the estimate are not provided.

Chukchi/Bering Seas

Defensible estimates of population size are currently unavailable. A crude approximation of the population range for this stock may be derived by subtracting the Beaufort Sea population estimate, 1,778 (Amstrup *et al.* 1986) from the total Alaska statewide estimate, 3,000 to 5,000, (Amstrup and DeMaster 1988), to derive an estimated population range for the Chukchi/Bering Sea stock, 1,222 to 3,222. Other sources of information with potential to estimate the size of this stock have not been included due to large variation and uncertainty in the data. Since a reliable estimate for the size of this stock is unavailable, the N_{MIN} has not been calculated.

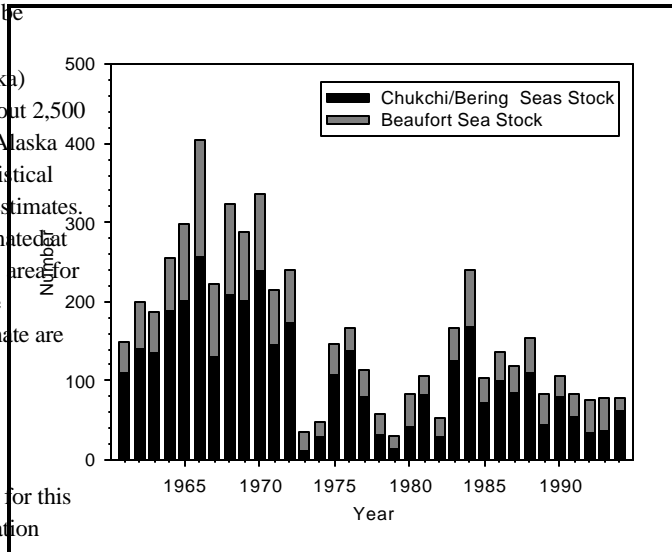


Figure 2. Annual harvest of polar bears in Alaska (1960-1994). Both stocks are shown for comparison.

Current Population Trend

Prior to the 20th century, when Alaska's polar bears were hunted primarily by Natives, both stocks probably existed near carrying capacity (K). Beaufort Sea once harvest by non-Natives became common, size of these stocks appeared to have declined rapidly (Amstrup 1995). Similar decline reasonably have occurred in the Chukchi Sea, although no data exist to test this assumption. Since passage of the Marine Mammal Protection Act (1972, both stocks seem to have grown --- judging from (a) mark and recapture data, although recapture data are too sparse for the Chukchi stock to growth; (b) observations by Natives and residents of coastal Alaska and Russia; (c) catch per unit effort indices; (d) reports from Russian scientists and Belikov 1991); and (e) harvest statistics. The stock has been assigned a recovery rate F_R of 1.0.

CURRENT AND MAXIMUM NET PRODUCTIVITY RATES

Default values for R_{MAX} for Alaska polar bear stocks were not established at the La Jolla PBR workshop. Population/stock specific scientific estimate R_{MAX} are not available for the Chukchi/Bering seas stock of polar bears. Taylor *et. al.* 1987 estimated the sustainable yield for adult female bears from a hunted population to be < 1.6% per annum based upon modeling.

POTENTIAL BIOLOGICAL REMOVAL (PBR)

In the following calculation: $(N_{MIN})(1/2 R_{MAX})(F_R) = PBR$ cannot be calculated for the Chukchi/Bering seas stock with current information. Increases are necessary to estimate the size, harvest and vital rates for this stock.

ANNUAL HUMAN CAUSED MORTALITY

Subsistence Harvest

Historically, polar bears have been killed for subsistence, handicrafts and recreation. Based upon records of skins shipped from Alaska, the annual harvest for 1925-53 averaged 120 bears and was primarily by Native hunters. Recreational hunting using aircraft was common from 1951-72 annual harvest to 150 during 1951-60 and to 260 during 1960-72 (Amstrup *et al.* 1986; Schliebe *et al.* in preparation). Aerial hunting has been prevalent since 1972. This reduced the mean annual harvest to 122 during 1980-92 (SD=52; range 64-296) (Schliebe *et al.* in preparation). Harvests from the Chukchi/Bering seas stock accounted for 70% (mean=86) of the annual kill during this period.

More recently the harvest levels have been declining, 1988-1994 mean harvest was 55 bears, and the sex ratio has been 68M:32F. A small number of recorded subsistence kills were taken for defense of life or property and used as subsistence takes. The number of unreported kills since present time is thought to be negligible. In western Alaska, there is presently no Federal control on the number of bears taken providing the population is depleted and the taking is not wasteful. A formal self-imposed hunter management agreement, with harvest guidelines, similar to that of the North Slope Borough and Canadian Inuvialuit Game Council management agreement has not yet been developed. However discussion continues to develop a management agreement for this stock between Native representatives of both countries and between the United States and Russian government.

Other Removals

Russia prohibited all hunting of polar bears in 1956 in response to the population declines caused by over-harvest. In Russia, only a small number of animals, less than 3-5 per year, were removed for placement in zoos (Uspenski and Belikov 1986). In Alaska, only 4 orphaned cubs of the year have been placed into zoos since 1989. Increased illegal hunting of polar bears in the Russian Arctic was recognized in 1992, primarily in response to decentralization of management authority, entering a free market economy, and increase economic pressures. The magnitude of this harvest is not known. In Alaska a harvest, if it occurs, is so small as to be undetectable. Industry has not been responsible for any lethal take of polar bears in this region.

Fisheries Information

Polar bear stocks in Alaska have no direct interaction with commercial fisheries activities.

STATUS OF STOCK

The Chukchi/Bering seas stock of polar bears in Alaska is a "non-strategic stock." The stock does not experience any incidental loss to commercial fishing. The stock has not been designated as "depleted" under the terms of the MMPA. This stock is not listed as "threatened" or "endangered" under the Endangered Species Act. The stock appears to have increased during the past 20+ years despite a substantial annual harvest estimated at 86 bears. The stock appears to be increasing slightly or stabilizing at a relatively high level, however this population's relationship to K can not be determined with existing information.

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